

WELL DATA, SURFACE-WATER DISCHARGES, AND NITRATE CONCENTRATIONS,  
FEBRUARY 1986 - SEPTEMBER 1987, IN PARTS OF THE  
PASCO BASIN, WASHINGTON

By B. W. Drost, K. M. Schurr, G. P. Ruppert, and S. E. Cox

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U.S. GEOLOGICAL SURVEY

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#### CONVERSION FACTORS

For the convenience of readers who may prefer to use metric units rather than the inch-pound units used in this report, values may be converted by using the following factors:

<u>Multiply inch-pound unit</u>	<u>By</u>	<u>To obtain metric unit</u>
foot (ft)	0.3048	meter (m)
acre-foot (acre-ft)	1233	cubic meter ( $m^3$ )
	0.001233	cubic hectometers ( $hm^3$ )
cubic foot per second ( $ft^3/s$ )	0.02832	cubic meter per second ( $m^3/s$ )
	28.32	liters per second (L/s)
milligrams per liter (mg/L)	0.00136	tons per acre-foot (tons/acre-ft)

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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ABSTRACT

The U.S. Geological Survey, in cooperation with the State of Washington Department of Ecology, initiated a study in 1986 of parts of the Pasco basin, Washington, to determine: (1) the effects of dams, irrigation, canal seepage, and ground-water pumping on ground-water levels; (2) the quality of ground water, with emphasis on probable sources of large concentrations of nitrate; (3) whether pesticides are present in the ground-water system; (4) directions and general rates of movement of undesirable chemicals and (or) chemical concentrations in the ground-water system; and (5) the possible results of various management alternatives for dealing with high ground-water levels and large concentrations of nitrate in ground water.

This report contains selected basic data collected from the start of the project (February 1986) through September 1987. The ground-water-level network consisted of about 500 wells that were measured in February 1986, September 1986, and February 1987. Water levels were measured monthly in about 70 wells, and 5 wells were monitored with continuous recorders during the same period.

A surface-water-flow gaging network was operated from February 1986 through July 1987. All major flows into and out of the project area were gaged for at least one full year. Miscellaneous measurements were taken at additional locations.

Ground- and surface-water samples were collected and analyzed for nitrate concentrations and specific conductance. Most of the water-level network wells and selected surface-water sites were sampled in September 1986. Selected wells were sampled periodically from September 1986 through September 1987.

## INTRODUCTION

The Pasco basin (fig. 1) includes approximately 2,000 square miles of south-central Washington. The basin has a diverse economy ranging from dryland and irrigated agriculture to the U.S. Department of Energy's Hanford site. The climate is arid to semiarid, and essentially the entire basin receives less than 10 inches of precipitation annually. Over the last 40 years, much of the basin has been changing from rangeland and dryland farming into one of the major irrigated agricultural areas of the Northwest. Significant volumes of water have been diverted from the river systems into this area for irrigation. There have also been significant increases in ground-water pumping.

A variety of water problems have resulted, both directly and indirectly, from the significant increase in irrigation in the basin. The use of surface water for irrigation has been linked to significant rises in ground-water levels in many areas (through percolation of surface water applied on crops and (or) seepage from canals and laterals). Ground-water levels have also risen due to higher river levels, caused by dams on the Columbia and Snake Rivers. Rising ground-water levels in some areas reportedly have resulted in septic system failures, damage to roads, and loss of agricultural land because of ponding. Rising ground-water levels have been suggested as a cause of landslides along the Columbia River. Pumping of ground water has lowered water levels in some areas, causing concern over the future availability (and cost) of ground water for irrigation. Large concentrations of nitrate observed in water from some wells have been linked to application of fertilizers and (or) failure of septic systems. There is concern also that pesticides, which have been used in the area for many years, may have contaminated drinking water supplies, or may do so in the future.

### Purpose and Scope

The U.S. Geological Survey, in cooperation with the State of Washington Department of Ecology, initiated a study in 1986 in parts of the Pasco basin (fig. 1) to determine:

- 1) The separate effects of dams, irrigation, canal seepage, and ground-water pumping on ground-water levels;
- 2) The quality of the ground water, with emphasis on probable sources of large concentrations of nitrate;
- 3) Whether pesticides are present in ground water in selected areas that have experienced long-term pesticide use.
- 4) The directions and general rates of movement of undesirable chemicals and (or) chemical concentrations in the ground-water system;
- 5) The possible results of various management alternatives for dealing with high ground-water levels and large concentrations of nitrate in ground water.

The purpose of this report is to make available selected data collected during the early stages of the study, from February 1986 through September 1987. The geologic units tapped by wells are not indicated in this report; the determination of geologic units is an interpretive process that will continue throughout analysis and modeling of the ground-water system.

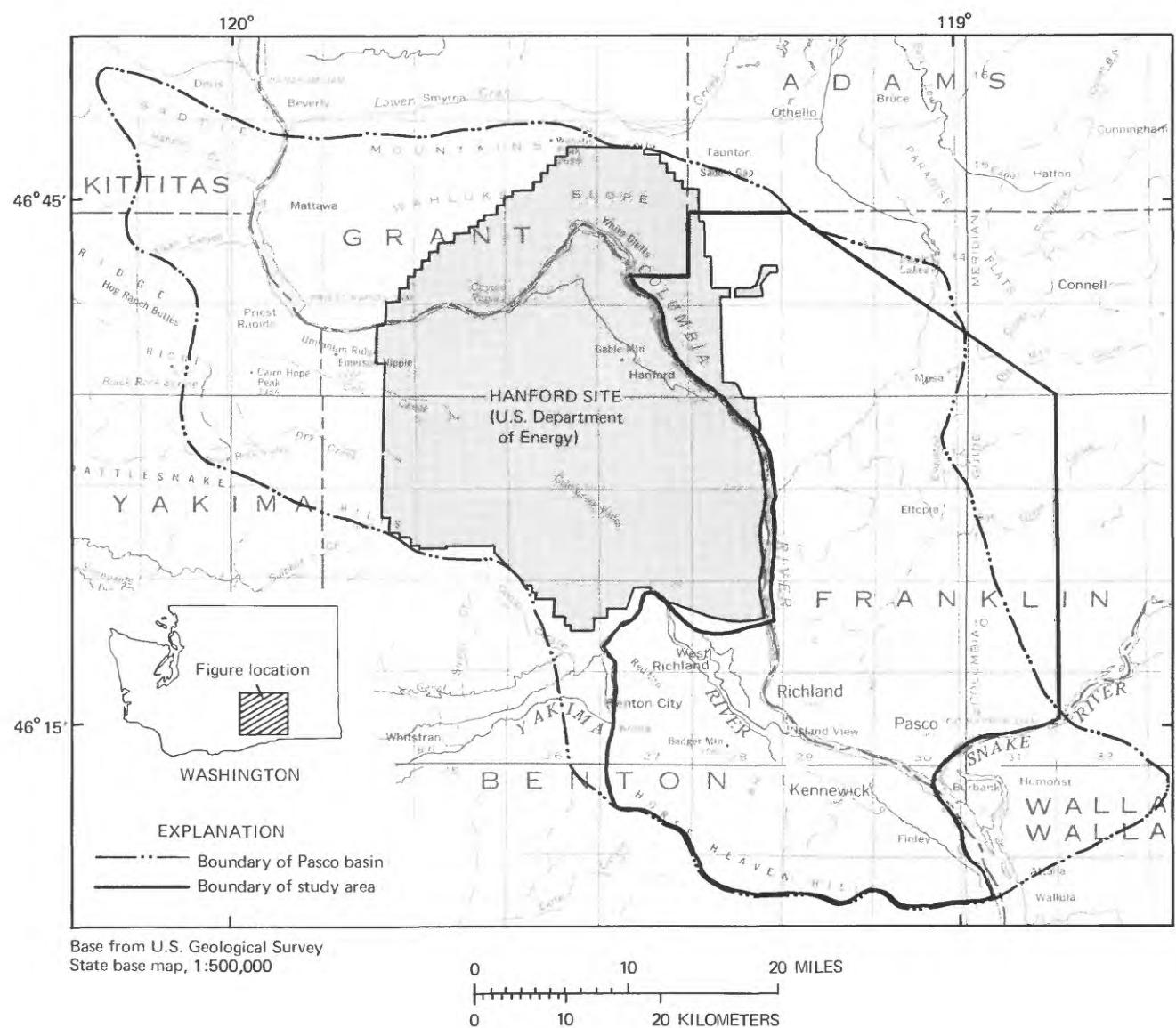
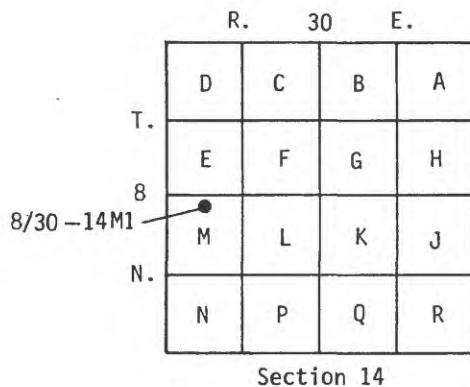


Figure 1.--Location of Pasco basin and study area.

### Well-Numbering System

The well numbers used in this report give the location of wells according to the official rectangular public-land survey. For example, in well number 08N/30E-14M01, the part preceding the hyphen indicates successively the township and range (T.08 N., R.30 E.) north and east of the Willamette base line and meridian, respectively. The number following the hyphen indicates the section (sec. 14), and the letter (M) indicates the 40-acre subdivision of the section as shown in the sketch below. Last is a sequence number used to distinguish wells in the same 40-acre tract. Thus, well 08N/30E-14M01 is in the NW $\frac{1}{4}$  of the SW $\frac{1}{4}$  of sec. 14, T.08 N., R.30 E. A "D" following the sequence number indicates a well which has undergone changes in construction (generally deepening). The number following the "D" is a sequence number to distinguish multiple construction changes in the same well.



### Acknowledgments

This study is being conducted in cooperation with the State of Washington Department of Ecology. The cooperation and assistance provided by the Columbia Irrigation District, the Franklin County Irrigation District, the Kennewick Irrigation District, and the South Columbia Basin Irrigation District are gratefully acknowledged. The irrigation districts allowed access to canals for installation and monitoring of gaging stations and, in some instances, provided daily staff-gage readings. Personnel at the State Fish Hatchery at Ringold Springs provided staff-gage readings. The U.S. Bureau of Reclamation provided access to wells and piezometers. The cities of Richland and West Richland provided access to their wells. Many local residents were especially helpful by providing access to their wells for water-level measurements and water-quality sampling.

## METHODS OF DATA COLLECTION

### Ground-Water Data

#### Well Selection

Wells were selected for the ground-water-level network primarily to achieve a good areal distribution of wells tapping each aquifer. Using information contained in drillers' logs, wells were selected that appeared to draw water from only a single aquifer. Some wells were included in the network because they had historical water-level records.

In areas where high ground-water levels and (or) large nitrate concentrations were reported, the desired observation-well density was one well per aquifer per one-sixteenth of a section; and in other areas, the desired density was one well per aquifer per one-quarter of a section. The well selection in each area was limited by the availability of wells, permission to measure, and the ability to obtain measurements and samples. Water levels and well records for the wells comprising the ground-water-level network are contained in table 1 (end of report).

#### Well-Location Data

In the field, well owners were contacted and data on the drillers' well logs were cross-checked (driller's name, well depth, year drilled, casing diameter, and well location) in order to match the drillers' well logs with the proper wells. The owners were asked also about any construction changes that might have been made to their wells.

Sketch maps, made in the field, included the distance from each well to a known point on a topographic map (generally road intersections). Most distance measurements were made with vehicle odometers. Well locations were plotted on 1:24,000-scale topographic maps in the field and then were checked against the sketch maps in the office.

Local numbers were assigned from plots on the topographic maps according to the well-numbering system described previously. On subsequent visits, locations were rechecked from the sketch maps and topographic plots, and, in some cases, were checked against aerial photographs.

Latitudes and longitudes were determined from the topographic map plots and are generally accurate to within 2 seconds. In rare cases, they may be accurate only to within 10 seconds.

Altitudes were assigned from the topographic maps and are generally accurate to within 10 feet. In steep terrain, or where the precise location is in doubt, the error may be as great as 40 feet. A few wells were checked with altimeters (accurate to within 5 feet) and a few had been surveyed (accurate to within 1 foot) for other projects.

## Well-Construction Data

Nearly all of the values for well depths and open intervals are from drillers' logs or from well owners. In some abandoned wells or piezometers, depths were measured. Open intervals were interpreted directly from drillers' data. If the driller indicated that a solid casing was present in an interval, then it was assumed the interval was not open. This is not always true, however, because the casing may be underfit (much smaller than the hole) and water could move up or down the outside of the casing to an open interval.

## Water Levels

Water levels were measured in approximately 500 wells during three mass measurements in February 1986, September 1986, and February 1987. These periods were chosen to determine water levels preceding the application of irrigation water (about mid-March) and just prior to the cessation of irrigation (about October 1). About 70 of these wells were measured monthly. Water-level recorders were installed in five wells; hydrographs for these wells are shown in figure 2. Additional water-level recorders, operated by other agencies, were in operation in the project area during the period February 1986 to February 1987. These records are not included in this report.

Water-level measurements were made according to the procedures in the "National Handbook of Recommended Methods for Water-Data Acquisition" (U.S. Geological Survey, 1977), with the following modifications:

- 1) Each water-level measurement was repeated at least once to verify the accuracy of the measurement and to determine the status of the water level. The status check indicates whether the water level was static or changing in response to a stress (such as recent pumping in the well or in a nearby well).
- 2) Steel tapes were preferred for water-level measurements, and levels were measured to 0.01 foot. If two steel-tape measurements were within 0.02 foot, then the measurement was considered good and the water level considered static. When the two were not within 0.02 foot of each other, then additional measurements were made to determine whether there was measurement error or a water-level status problem. Changing water levels were common in basalt wells where drawdowns are large and recoveries are slow. The second measurement was generally taken within 5 minutes of the first, and therefore extremely slow water-level changes may not have been observed.
- 3) Electrical tapes were used where steel tapes were inappropriate (casing or hole too wet, cascading water, pumping well). Because electrical-tape measurements are less accurate than those made with steel tapes, water levels were measured to 0.01 foot, but reported only to 0.1 foot. Two successive measurements were made, usually within 5 minutes. If they did not match within 0.04 foot, then further measurements were made in order to establish the measurement accuracy and the water-level status. Electrical tapes are subject to stretching, therefore, all electrical tapes were periodically checked against steel tapes.

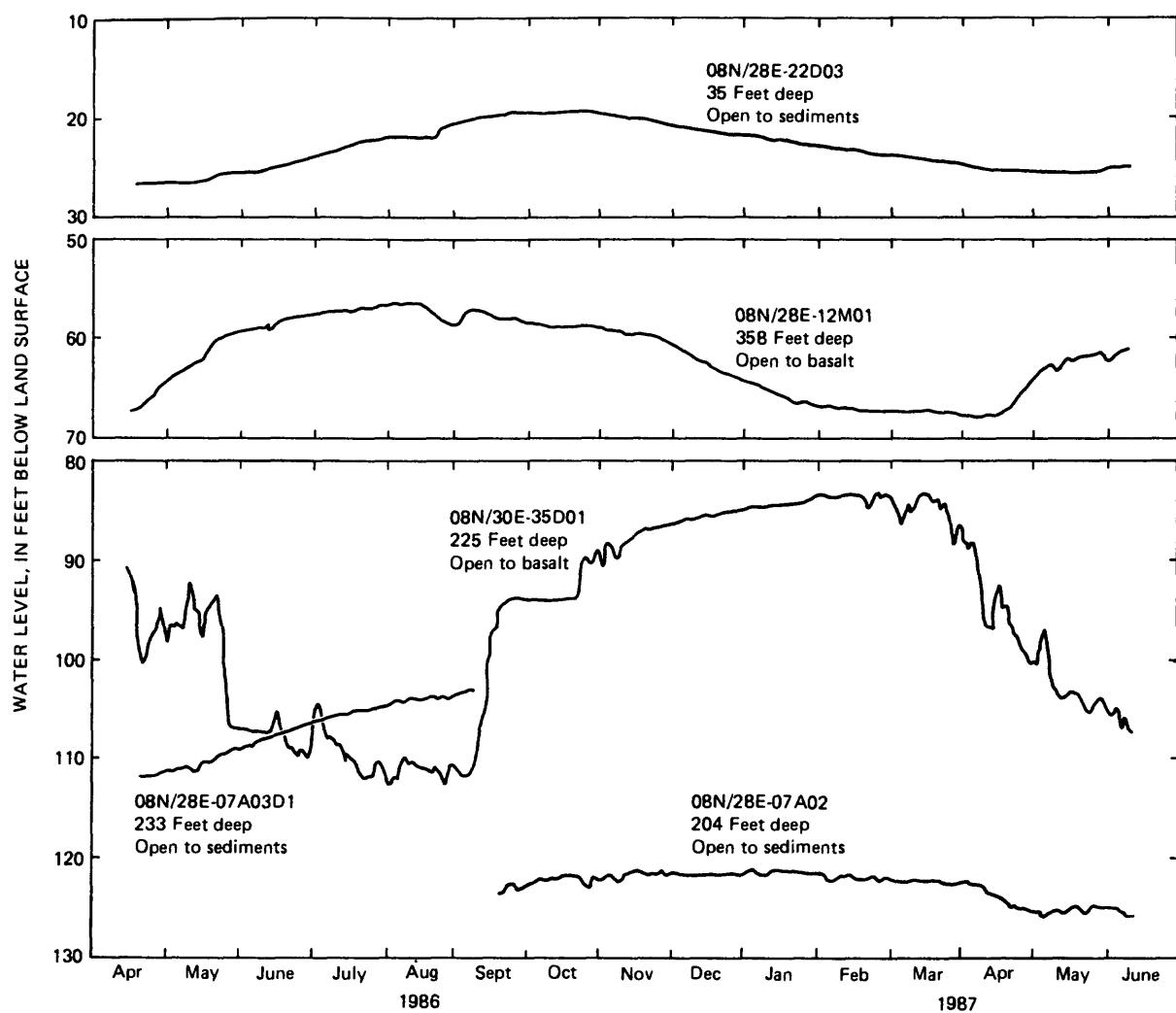


Figure 2.--Hydrographs of wells with continuous recorders.

## Surface-Water Data

### Site Selection

A surface-water-flow gaging network was established to monitor all significant surface-water flow in and out of the study area. Inflow and outflow points were identified from topographic maps, air photos, field visits, and information supplied by personnel of the irrigation districts. In most cases, inflows are major irrigation canals and outflows are irrigation wasteways. Some outflows are a mixture of irrigation waste flows (return flows and through flows), storm runoff, and spring flows.

Some sites were chosen at intermediate locations between inflow and outflow points to determine the distribution of flow within the major irrigation systems. One site was established on the Columbia River to monitor the variation in river stage only.

Figures 3 and 4 show the location of the surface-water sites (39 gaging stations, 1 elevation station, and 13 miscellaneous-measurement sites) operated by U.S. Geological Survey personnel, and tables 2 and 3 (at end of report) list the site records. The project surface-water network includes sites operated by other agencies (primarily the U.S. Bureau of Reclamation), but only Survey sites are included in this report. Gages were operated to obtain at least one complete year of record at each site, although not all gages were operated during identical periods. The first records were collected in February 1986, and all gages had a complete year of record by July 1987.

### Station Identification Numbers

Each gaging station was assigned a unique number that is retained indefinitely. The system used by the U.S. Geological Survey to assign these numbers is based on geographical location. The "downstream order" system, with some modification, was used for stations with continuous record. No numbers were assigned to sites where only miscellaneous discharge measurements were made.

The "downstream order" system uses eight-digit numbers that normally increase in a downstream direction. Stations on a tributary that enter between two sites are numbered between those two. The numbers are not necessarily consecutive because gaps are left for possible additional stations.

For canal systems that flow only during the irrigation season, station numbers begin at the head of the canal system, based on the diversion point from the river system, and increase downstream. A few canal systems flow year-round as a result of spring flows into the canals. In these systems, stations were numbered as if they were natural tributaries to the river system into which they discharge, with station numbers assigned at the discharge point and decreasing in the upstream direction.

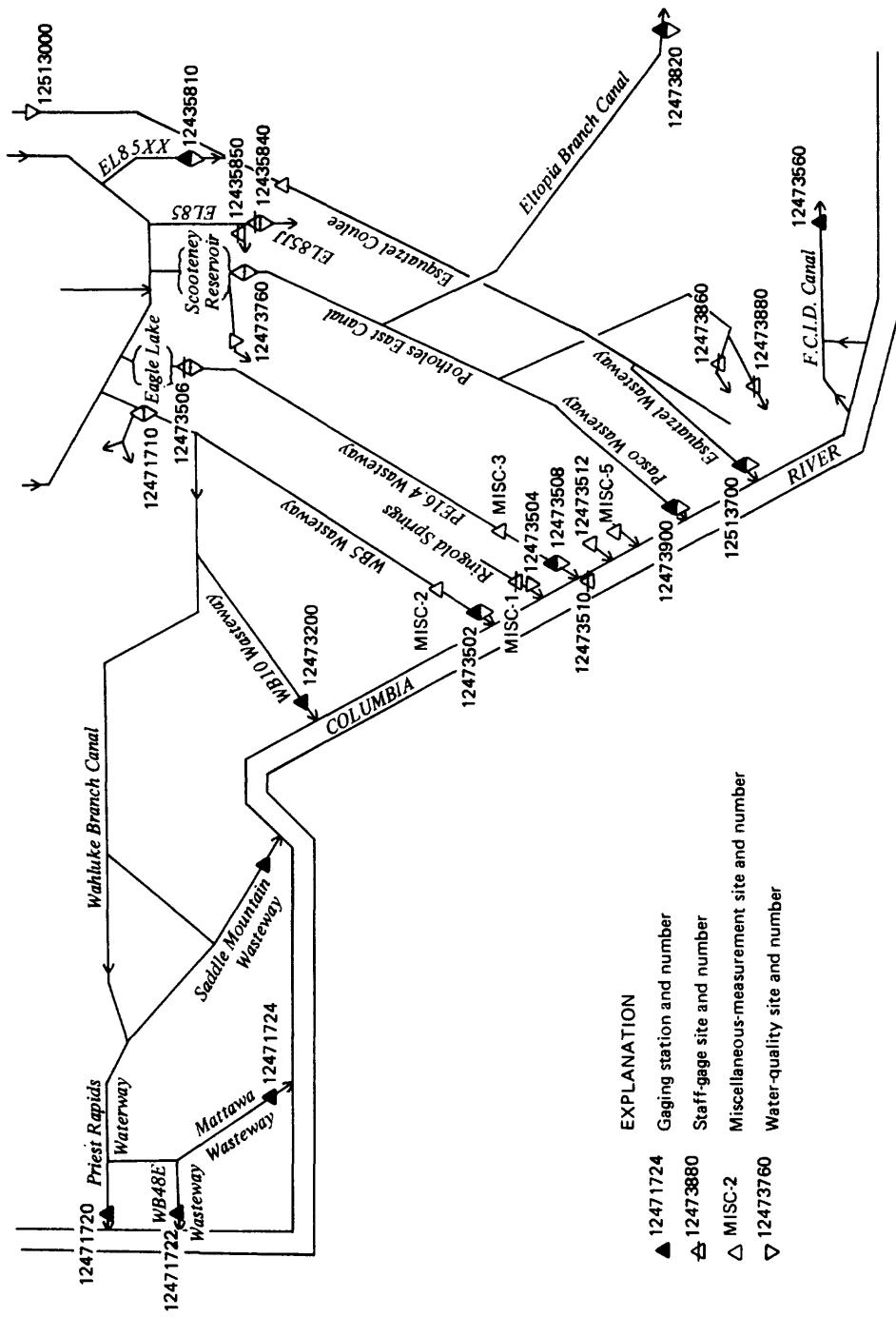


Figure 3.--Location of surface-water sites in South Columbia Basin and Franklin County Irrigation Districts.

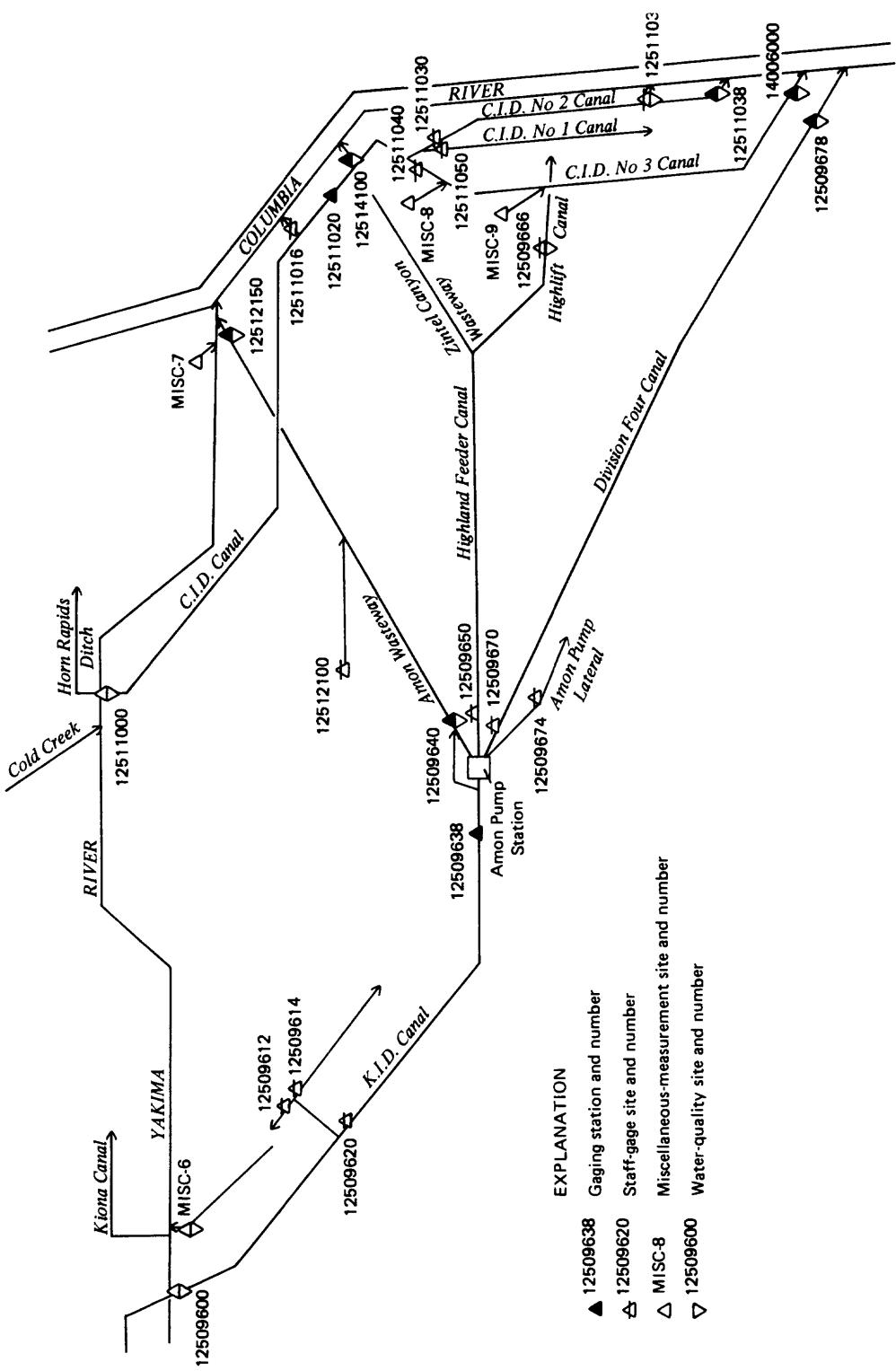


Figure 4.—Location of surface-water sites in Kennewick and Columbia Irrigation Districts.

## Discharge Calculations

Records of stage were obtained either from automatic recording devices, which usually recorded once every 30 minutes, or from readings, usually once-daily, of staff gages. For some stations, there were periods when either no gage-height record was obtained or the record was unusable.

Discharge was computed from direct measurements and stage records using the standard methods outlined in "Measurement and Computation of Streamflow" (Rantz and others, 1982).

## Data Presentation

The data for each gaging station (table 2) consist of two parts--the manuscript or station description, and the data table. The manuscript provides, under various headings, descriptive information as follows:

**LOCATION.**--Information on location was obtained from the most accurate maps available. Latitude and longitude were determined to the nearest second. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given.

**GAGE.**--The type of gage used, either recording or staff, is given. Altitudes were assigned from topographic maps and are generally accurate to within 10 feet.

**REMARKS.**--All periods of estimated daily discharge are identified.

A statement on the accuracy of the records follows. The accuracy depends primarily on: (1) The stability of the stage-discharge relation, (2) the accuracy and completeness of stage record and discharge measurements, and (3) interpretation of records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true values; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet these criteria are rated "poor." Different accuracies may be attributed to different parts of a given record. No accuracy was assigned to elevation record.

For stations on canal systems, the initial point of diversion into the system is identified.

**EXTREMES.**--Maximum discharge, unless otherwise qualified, corresponds to the highest stage that was recorded or observed. For stations that had flow only during irrigation season, no minimum was noted. For stations that flowed continuously, the minimum was identified in the same manner as the maximum.

The daily table for a gaging station gives the mean discharge in cubic feet per second for each day, and is followed by monthly summaries. Discharges are reported to the nearest hundredth of a cubic foot per second for values less than 1, to the nearest tenth between 1 and 9.9, and in whole numbers between 10 and 1,000. The number of significant figures used is based solely on the magnitude of the discharge value. Elevations are reported to 0.1 foot.

Records published for each miscellaneous site (table 3) consist of the site name, the stream or irrigation system to which it is tributary, site location, and measurement date and discharge. Location data were derived, and discharges measured, using the same methods described for gaging stations.

#### Water-Quality Data

During the September 1986 water-level mass measurement, water samples were collected from most of the wells in the ground-water-level network. These samples were analyzed for nitrate-plus-nitrite concentrations and specific conductance. Sample analyses will be used to estimate the general magnitude of the reported nitrate problem, and provide information in designing more detailed water-quality investigations planned for later stages of the project. Followup samples were collected from some wells between September 1986 and September 1987 to observe seasonal changes in nitrate concentrations. All ground-water-quality data collected through December 1986 are included in table 1 (at end of report).

Samples for water-quality analysis were also collected from selected surface-water sites in September 1986 (table 4). Seepage from the irrigation systems is a source of recharge to the ground-water system and, therefore, a potential source of nitrates in the ground-water system. The surface-water samples were collected for comparison with the ground-water samples.

#### REFERENCES CITED

- Rantz, S.E., and others, 1982, Measurement and computation of streamflow: Volume 2, Computation of discharge: U.S. Geological Survey Water-Supply Paper 2175, 631 p.
- U.S. Geological Survey, 1977, National handbook of recommended methods for water-data acquisition: Office of Water-Data Coordination, chapter 2.

Table 1.--Well records, water levels, nitrate-plus-nitrite concentrations, and specific-conductance values in wells composing the water-level network

Altitude of LSD: Altitude of land surface at well head.

Opening data: Refers to interval (in feet below land surface) where well is open to aquifer. This is generally the screened or perforated section of a well completed in sediments and the open-hole section of a well completed in basalt. Where opening top equals opening bottom, well has only an open-ended casing.

Use of water: A, air conditioning; H, domestic; I, irrigation; N, industrial; P, public supply; R, recreation; S, stock; U, unused; Z, other.

Water levels: Where multiple water levels are shown for the same day in a well, the water levels were generally taken a few minutes apart and are presented in the order taken. A negative level indicates a level above land surface.

Status (of water level): C, cascading; D, dry; F, flowing; I, injector site; P, pumping; R, recently pumped; S, nearby well pumping; T, nearby well recently pumped; U, unknown; V, foreign substance on water surface (oil from turbine pump lubricators, and usually only a few feet thick with resultant minor effect on water-level measurement); Z, other.

Method (of water-level measurement): A, airline; G, pressure gage; S, steel tape; T, electric tape.

Local well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Use bottom (feet)	Date measured	Water level (feet)	Status water level	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
07N/30E-01P02	460637	1190012	550.00	178.0	95.00	178.00	H	3/11/1986	50.33	U	S	--	--
								3/11/1986	51.72	U	S	--	--
								3/11/1986	51.75	U	S	--	--
								3/11/1986	51.40	U	S	--	--
								3/11/1986	51.12	U	S	--	--
								3/ 3/1987	52.01	R	S	--	--
								3/ 3/1987	51.33	R	S	--	--
								9/ 8/1986	93.80	-	T	--	--
								2/26/1987	85.20	-	S	--	--
								2/20/1986	57.83	U	S	09/08/1986	3.00
								9/ 8/1986	80.75	U	S	--	--
								2/26/1987	57.85	-	S	--	--
								2/20/1986	95.20	-	T	09/11/1986	1.70
								4/18/1986	102.20	R	T	--	--
								5/13/1986	108.30	R	T	--	--
								6/18/1986	117.97	-	S	--	--
								7/22/1986	116.02	-	S	--	--
								8/20/1986	118.70	-	T	--	--
								9/11/1986	117.10	R	T	--	--
								10/23/1986	105.60	-	T	--	--
								11/20/1986	101.10	-	T	--	--
								12/16/1986	105.70	-	T	--	--
								2/ 5/1987	106.50	-	T	--	--
								2/26/1987	101.80	-	S	--	--
								2/22/1986	101.12	-	S	--	--
								9/ 2/1986	95.07	-	S	--	--
								2/25/1987	99.94	-	S	--	--
								2/21/1986	94.11	U	S	09/02/1986	9.50
								4/16/1986	94.10	U	S	--	--
								95.68	95.68				



Local well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Open- ing bottom (feet)	Use water measured	Date 3/10/1986	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
08N/28E-01RR3	461208	1191430	550.00	180.0	140.00	180.00	H	9/ 5/1986	80.60	R	S	09/05/1986	0.10	1410
								9/ 5/1986	76.35	R	S	--	--	--
								9/ 5/1986	73.93	R	S	--	--	--
08N/28E-02PP1	461213	1191629	574.00	125.0	100.00	125.00	I	2/23/1987	67.66	-	S	--	--	--
								2/24/1986	46.17	-	S	--	--	--
								9/ 4/1986	46.92	-	S	--	--	--
								2/23/1987	43.63	-	S	--	--	--
08N/28E-03PP1	461211	1191750	822.00	633.0	206.00	415.00	H	3/12/1986	334.37	-	S	09/05/1986	< 0.1	460
								9/ 5/1986	333.70	-	S	--	--	--
								3/ 3/1987	333.53	U	S	--	--	--
08N/28E-06BB01D2	461240	1192117	711.00	281.0	220.00	274.00	I	2/24/1986	176.00	-	A	--	--	--
								9/ 3/1986	237.00	P	A	--	--	--
								9/19/1986	172.38	U	S	--	--	--
								10/24/1986	162.80	U	S	--	--	--
								10/24/1986	165.40	U	S	--	--	--
								12/ 1/1986	164.20	U	S	--	--	--
								1/28/1987	155.00	-	S	--	--	--
								2/18/1987	154.30	-	S	--	--	--
								2/25/1987	159.17	U	S	--	--	--
								2/25/1987	158.11	U	S	--	--	--
								2/25/1987	158.41	U	S	--	--	--
								3/18/1987	152.66	-	S	--	--	--
08N/28E-06D01	461244	1192150	683.00	193.0	193.00	193.00	H	2/20/1986	103.27	R	S	09/03/1986	16.00	701
								2/20/1986	102.98	R	S	--	--	--
								2/20/1986	102.94	R	S	--	--	--
								9/ 3/1986	103.60	-	S	--	--	--
								2/25/1987	101.87	-	S	--	--	--
								2/24/1986	146.00	-	A	--	--	--
								9/ 3/1986	230.00	P	A	--	--	--
								9/19/1986	162.89	U	S	--	--	--

9/19/1986	162.87	U	S							
10/24/1986	156.46	U	S							
10/24/1986	156.30	U	S							
12/ 1/1986	153.23	U	S							
12/ 1/1986	153.30	U	S							
1/28/1987	149.30	-	S							
2/18/1987	149.90	-	S							
2/25/1987	148.38	-	S							
3/18/1987	147.38	-	S							
2/20/1986	124.08	-	S							
8/25/1986	125.10	-	S							
9/ 3/1986	125.01	-	S							
9/19/1986	123.60	-	S							
10/24/1986	122.07	-	S							
12/ 1/1986	121.96	-	S							
1/28/1987	121.73	U	S							
1/28/1987	121.40	U	S							
2/18/1987	122.70	-	S							
3/18/1987	122.48	-	S							
4/16/1987	123.94	-	S							
6/11/1987	126.29	-	S							
2/20/1986	109.25	-	S							
4/ 9/1986	116.00	U	S							
4/14/1986	111.30	-	S							
5/ 9/1986	111.20	-	S							
6/16/1986	107.81	U	S							
7/14/1986	105.68	-	S							
8/25/1986	104.21	-	S							
10/24/1986	102.60	U	S							
12/ 1/1986	103.85	-	S							
1/28/1987	105.63	-	S							
2/18/1987	106.72	-	S							
2/24/1987	106.54	-	S							
3/18/1987	107.10	-	S							
4/16/1987	108.10	-	S							
3/10/1986	96.68	-	S							
9/ 3/1986	89.03	-	S							
2/25/1987	94.79	-	S							
3/11/1986	108.40	R	T							
9/ 3/1986	95.81	-	S							
2/25/1987	106.11	-	S							
3/11/1986	94.20	-	S							
08N/28E-07A02	461207	1192102	699.00	204.0	200.00	204.00	U	564	3.60	--
08N/28E-07A03	461154	1192102	691.00	225.0	195.00	225.00	U	564	2.80	--
08N/28E-07A03D1	461154	1192102	691.00	233.0	213.00	233.00	I	09/03/1986	--	--
08N/28E-07B01D2	461205	1192125	680.00	220.0	HS	3/10/1986	--	--	--	--
08N/28E-07D01	461156	1192148	693.00	260.0	70.00	260.00	H	09/03/1986	2.80	--
08N/28E-07K01	461137	1192124	677.00	--	--	--	--	--	--	--

Local well number	Lat- itude	Long- itude	Alt-i- tude	Well depth of LSD (feet)	Open- ing top (feet)	Use of bottom water (feet)	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
08N/28E-08D01	461206	1192049	707.00	200.0	200.00	H	9/ 3/1986	85.86	-	S	--	--	--
							2/25/1987	92.00	-	S	--	--	--
							3/12/1986	139.30	-	S	--	--	--
							9/ 2/1986	141.99	-	S	--	--	--
08N/28E-08NN01	461127	1192047	675.00	225.0	194.50	I	2/24/1987	137.37	-	S	--	--	--
							2/20/1986	96.30	V	S	--	--	--
							9/ 3/1986	90.48	V	S	--	--	--
							2/24/1987	93.54	-	S	--	--	--
08N/28E-11Q01	461114	1191618	577.00	120.0	109.00	H	2/23/1986	63.43	R	S	09/16/1986	1.60	357
							4/15/1986	62.04	-	S	--	--	--
							5/14/1986	61.15	-	S	--	--	--
							6/19/1986	59.20	-	S	--	--	--
							7/15/1986	57.90	-	S	--	--	--
							8/18/1986	57.70	-	S	--	--	--
							9/16/1986	57.00	-	S	--	--	--
							10/21/1986	56.37	-	S	--	--	--
							11/18/1986	56.50	-	S	--	--	--
							12/10/1986	57.84	R	S	--	--	--
							12/10/1986	57.82	R	S	--	--	--
							1/13/1987	58.50	-	S	--	--	--
							2/ 3/1987	58.80	U	S	--	--	--
							2/24/1987	58.92	-	S	--	--	--
08N/28E-11RR01	461118	1191603	610.00	320.0	28.00	320.00	H	9/ 4/1986	99.69	-	S	--	--
							2/23/1986	101.72	-	S	09/04/1986	0.30	408
							9/ 4/1986	99.66	-	S	--	--	--
							2/24/1987	100.42	U	S	--	--	--
08N/28E-12B02	461153	1191452	567.00	105.0	105.00	H	3/10/1986	51.14	-	S	09/04/1986	1.50	441
							9/ 4/1986	45.73	-	S	--	--	--
							2/23/1987	49.85	-	S	--	--	--
08N/28E-12C03	461155	1191523	611.00	118.0	118.00	H	9/ 4/1986	89.14	-	S	09/04/1986	5.00	680
							2/23/1987	92.00	-	S	--	--	--
08N/28E-12D02	461155	1191534	602.00	142.0	128.00	U	2/24/1986	93.20	T	--	--	--	--

08N/28E-12H01	461133	1191532	583.00	358.0	20.00	358.00	H	142.00	142.00	9/ 4/1986	89.78	-	S
										2/23/1987	92.26	-	S
										4/ 9/1986	69.25	-	S
										4/14/1986	68.50	U	S
										5/ 9/1986	63.20	-	S
										6/16/1986	59.27	-	S
										7/14/1986	57.32	-	S
										8/25/1986	58.47	-	S
										9/17/1986	58.11	-	S
										10/23/1986	58.82	-	S
										12/ 1/1986	60.95	-	S
										1/28/1987	66.72	U	S
										1/28/1987	66.62	U	S
										2/18/1987	67.45	-	S
										3/18/1987	67.42	-	S
										4/15/1987	67.99	-	S
										6/ 9/1987	61.22	-	S
										2/23/1986	79.47	-	S
										9/ 4/1986	78.07	-	S
										2/24/1987	76.13	-	S
										4/16/1986	76.21	R	S
										4/16/1986	76.12	R	S
										4/16/1986	76.02	R	S
										4/16/1986	75.98	R	S
										9/ 4/1986	74.41	U	S
										3/ 4/1987	72.78	U	S
										2/23/1986	85.52	-	S
										9/ 5/1986	84.62	-	S
										2/28/1987	82.51	-	S
										3/11/1986	441.50	-	S
										-	-	-	S
										2/19/1986	0.12	-	S
										4/15/1986	0.21	-	S
										9/ 4/1986	-0.11	-	S
										2/24/1987	0.04	-	S
										2/19/1986	57.63	-	S
										4/15/1986	57.70	-	S
										5/14/1986	58.80	-	S
										6/19/1986	59.50	-	S
										7/15/1986	59.75	-	S
										8/18/1986	59.70	-	S
08N/28E-14C01	461059	1191628	604.00	140.0	117.00	140.00	H	9/ 4/1986	30.00	3.00	-	-	510
08N/28E-14C02	461102	1191626	598.00	140.0	131.00	140.00	H	9/ 4/1986	79.47	-	-	-	-
08N/28E-14H02	461041	1191643	589.00	190.0	190.00	190.00	H	9/ 4/1986	74.41	-	-	-	-
08N/28E-14R02	461026	1191554	930.00	515.0	499.00	504.00	H	3/11/1986	441.50	-	-	-	-
08N/28E-15N03	461024	1191808	578.14	2.4	515.00	515.00	U	2/19/1986	0.12	-	-	-	-
08N/28E-15P01	461027	1191741	587.00	108.0	103.00	108.00	H	4/15/1986	0.21	-	-	-	-
										9/ 4/1986	-0.11	-	S
										2/24/1987	0.04	-	S
										2/19/1986	57.63	-	S
										4/15/1986	57.70	-	S
										5/14/1986	58.80	-	S
										6/19/1986	59.50	-	S
										7/15/1986	59.75	-	S
										8/18/1986	59.70	-	S
										9/16/1986	17.00	-	860
										10/10/1986	9.40	-	--
										11/21/1986	10.00	-	--
										12/10/1986	9.40	-	--

Local well number	Lat- itude	Long- itude	Altiti- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Use of bottom (feet)	Water level measured	Date sampled	Water level (feet)	Status Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)	
08N/28E-15P02	461027	1191754	574.10	4.0	U	2/19/1986	1.40	5/ 6/1987	55.96	S	7/ 1/1987	57.53	R	
08N/28E-15P03	461020	1191757	576.40	18.0	U	2/19/1986	19.52	9/ 4/1986	3.85	S	2/ 4/1987	3.55	S	
08N/28E-15P04	461024	1191746	591.26	28.0	U	2/19/1986	19.25	9/12/1986	13.86	S	2/24/1987	18.56	S	
08N/28E-15P05	461023	1191749	586.64	24.0	U	2/19/1986	14.13	2/28/1987	47.67	S	-	-	-	
08N/28E-15Q01	461025	1191725	575.00	193.0	110.00	185.00	U	9/12/1986	13.86	S	2/24/1987	20.40	S	
08N/28E-16L01	461035	1191858	614.00	60.0	60.00	H	2/20/1986	21.10	9/ 4/1986	19.44	S	09/04/1986	11.00	--
08N/28E-16R01	461022	1191827	612.00	114.0	104.00	114.00	H	2/24/1987	23.82	S	09/04/1986	23.07	S	
08N/28E-17N01	461025	1192038	699.13	65.0	0.99	70.00	U	3/10/1986	0.00	D	9/ 3/1986	0.00	D	
08N/28E-17N02	461024	1192039	701.00	62.8	0.99	70.00	U	3/10/1986	0.00	D	2/24/1987	0.00	D	

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Local well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Use bottom (feet)	Date measured	Water level (feet)	Status water level measured	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)	
08N/28E-21H01	461002	1191818	668.00	125.0	125.00	H	7/ 1/1987	14.70	P	S	09/04/1986	1.40	--	349
							2/24/1986	77.07	-	S	--	--	--	--
							9/ 4/1986	71.94	-	S	--	--	--	--
							2/24/1987	75.86	-	S	--	--	--	--
08N/28E-22C01	461014	1191753	597.19	18.0		U	2/19/1986	13.09	-	S	--	--	--	--
08N/28E-22D01	461018	1191817	612.00	126.0	126.00	H	2/22/1986	26.66	-	S	09/04/1986	8.10	815	
							9/ 4/1986	25.39	-	S	--	--	--	--
							2/24/1987	26.04	-	S	--	--	--	--
08N/28E-22D03	461009	1191808	602.20	35.0		U	2/19/1986	25.05	-	S	--	--	--	--
							4/ 9/1986	26.80	U	S	--	--	--	--
							4/14/1986	26.70	-	S	--	--	--	--
							5/ 9/1986	26.60	-	S	--	--	--	--
							6/16/1986	25.99	-	S	--	--	--	--
							7/14/1986	23.96	-	S	--	--	--	--
							8/25/1986	20.97	-	S	--	--	--	--
							9/17/1986	19.75	-	S	--	--	--	--
							10/24/1986	19.67	-	S	--	--	--	--
							12/ 1/1986	20.50	-	S	--	--	--	--
							1/28/1987	22.90	-	S	--	--	--	--
							2/18/1987	23.77	-	S	--	--	--	--
							3/18/1987	24.45	-	S	--	--	--	--
							4/16/1987	25.54	-	S	--	--	--	--
							6/10/1987	25.25	-	S	--	--	--	--
							2/24/1987	10.67	-	S	--	--	--	--
							2/19/1986	0.38	-	S	--	--	--	--
							4/16/1986	1.39	-	S	--	--	--	--
							5/14/1986	8.40	-	S	--	--	--	--
							6/19/1986	1.95	-	S	--	--	--	--
							7/15/1986	1.65	-	S	--	--	--	--
							8/18/1986	0.40	-	S	--	--	--	--
								-0.30	-	S	--	--	--	--

9/16/1986	0.02	-	S
10/21/1986	0.10	-	S
11/18/1986	-0.18	-	S
12/10/1986	-0.17	-	S
1/13/1987	-0.05	-	S
2/ 3/1987	0.12	-	S
2/24/1987	0.13	-	S
2/19/1986	3.20	R	S
2/19/1986	2.84	R	S
2/19/1986	2.67	R	S
9/ 4/1986	-0.73	R	S
9/ 4/1986	-0.77	R	S
9/ 4/1986	-0.78	R	S
2/24/1987	1.49	-	S
2/19/1986	27.87	-	S
9/ 4/1986	23.85	-	S
2/24/1987	25.39	-	S
2/19/1986	0.00	D	S
4/15/1986	0.00	D	S
9/ 4/1986	52.07	-	S
10/21/1986	51.27	-	S
11/18/1986	54.90	U	S
12/10/1986	0.00	D	S
2/24/1987	0.00	D	S
3/18/1987	0.00	D	S
3/30/1987	0.00	D	S
4/14/1987	0.00	D	S
4/27/1987	0.00	D	S
5/ 6/1987	0.00	D	S
5/21/1987	0.00	D	S
6/ 3/1987	0.00	D	S
2/19/1986	0.00	D	S
4/15/1986	0.00	D	S
9/ 4/1986	18.28	-	S
10/21/1986	29.05	-	S
11/18/1986	0.00	D	S
2/24/1987	0.00	D	S
3/18/1987	0.00	D	S
3/30/1987	0.00	D	S
4/14/1987	0.00	D	S
4/27/1987	0.00	D	S
5/ 6/1987	0.00	D	S
461013	1191808	578.00	156.0
461006	1191740	614.93	47.0
461000	1191753	662.96	57.5
460957	1191739	696.71	38.5
08N/28E-22D07			
08N/28E-22F01			
08N/28E-22F02			
08N/28E-22G01			

Local Well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	open- ing top (feet)	use bottom (feet)	Date water measured	Water level (feet)	Status Method	Sampling date	Total plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
08N/28E-23C01	461009	1191625	987.00	820.0	740.00	820.00	H	..	D	S	..	..
08N/28E-23C02	461016	1191638	960.00	600.0	557.00	600.00	H	3/25/1986	459.30	S	..	..
08N/29E-01F02	461221	1190745	410.00	93.0	76.00	88.00	I	4/15/1986	449.40	T	..	..
08N/29E-05D01	461235	1191301	560.00	90.0	85.00	90.00	I	5/15/1986	461.10	P	..	..
								5/17/1986	453.20	T	..	..
								2/26/1987	445.38	U	..	..
								2/26/1987	445.48	U	..	..
								3/19/1986	66.50	S	09/03/1986	5.90
								9/ 4/1986	63.46	R	..	..
								9/ 4/1986	63.45	R	..	..
								9/ 4/1986	63.44	R	..	..
								3/ 4/1987	66.37	S	..	..
								3/10/1986	52.19	S	09/04/1986	7.70
								4/18/1986	52.90	S	..	..
								5/13/1986	52.90	S	..	..
								6/18/1986	52.70	S	..	..
								7/21/1986	61.20	P	..	..
								8/19/1986	51.05	S	..	..
								9/ 2/1986	50.35	S	..	..
								10/22/1986	48.20	S	..	..
								11/19/1986	47.45	S	..	..
								12/15/1986	47.10	T	..	..
								1/14/1987	46.90	S	..	..
								2/ 4/1987	46.87	S	..	..
								2/26/1987	46.93	S	..	..
								3/ 4/1987	46.62	S	..	..
								3/13/1986	121.55	S	09/02/1986	8.20
								9/ 2/1986	113.20	S	..	..

08N/29E-10C01	461150	1191012	554.00	90.0	85.00	90.00	H	2/25/1987	118.33	-	S	--
								3/14/1986	65.57	-	S	--
								9/ 3/1986	58.65	-	S	--
								2/26/1987	64.56	-	S	--
								3/11/1986	38.33	-	S	09/03/1986
08N/29E-12B01	461142	1190732	388.00	64.0	52.60	64.00	I	2/25/1987	38.23	-	S	--
								3/11/1986	40.46	-	S	09/03/1986
								9/ 3/1986	37.24	-	S	--
								2/25/1987	40.33	-	S	--
08N/29E-12H01	461135	1190720	383.00	61.0	61.00	61.00	U	2/21/1986	35.17	-	S	09/04/1986
								9/ 3/1986	30.89	-	S	--
								2/25/1987	35.21	-	S	--
08N/29E-13A01	461139	1190704	380.00	125.0	58.00	62.00	I	2/19/1986	39.38	-	S	09/11/1986
								4/18/1986	38.68	-	S	12/16/1986
								5/13/1986	37.53	-	S	--
								6/18/1986	38.00	-	T	--
								7/22/1986	38.20	-	T	--
								8/20/1986	37.10	-	T	--
								9/11/1986	35.70	-	T	--
								10/23/1986	34.60	-	T	--
								11/20/1986	33.00	-	T	--
								12/16/1986	33.20	-	T	--
								1/15/1987	33.20	-	T	--
								2/ 5/1987	32.20	-	T	--
								2/26/1987	32.81	-	S	--
								5/ 7/1987	38.52	-	S	--
								7/ 1/1987	34.22	-	S	--
08N/29E-16H01	461050	1191048	709.00	388.0	0.99	0.99	H1	3/10/1986	154.99	-	S	--
								9/ 2/1986	168.07	R	S	--
								9/ 2/1986	167.97	R	S	--
								2/25/1987	154.40	-	S	--
								3/10/1986	71.20	-	T	09/02/1986
								9/16/1986	64.00	-	T	09/16/1986
								2/25/1987	75.00	-	T	--
08N/29E-17G02	461040	1191230	759.00	245.0	18.00	245.00	H	3/13/1986	103.55	R	S	09/02/1986
								3/13/1986	103.54	R	S	--
								3/13/1986	103.53	R	S	--
								4/18/1986	103.90	-	S	--
								5/13/1986	103.15	-	S	--
								6/18/1986	103.45	-	S	--

Local well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Use of bottom water (feet)	Date measured	Water level (feet)	Status measured	Method measured	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
08N/29E-24D01	461003	1190803	605.00	300.0	H	...	7/22/1986	102.90	P	S	-	-	-
08N/30E-04N02	461156	1190418	339.00	25.0	25.00	1	8/18/1986	104.90	-	S	-	-	-
08N/30E-05J01	461217	1190446	340.00	125.0	99.00	125.00	P	9/ 2/1986	102.88	-	S	-	-
								10/21/1986	103.97	U	S	-	-
								11/18/1986	104.20	-	T	-	-
								12/10/1986	104.80	-	T	-	-
								1/13/1987	104.80	-	T	-	-
								2/27/1987	143.18	R	S	-	-
								2/27/1987	138.85	R	S	-	-
								2/27/1987	138.55	R	S	-	-
								2/27/1987	137.62	R	S	-	-
								3/12/1986	10.90	-	S	09/27/1986	0.80
								2/27/1987	10.13	-	S	09/06/1986	6.50
								2/20/1986	5.60	-	S	09/06/1986	< 0.1
								9/ 6/1986	23.12	R	S	-	-
								9/ 6/1986	19.95	R	S	-	-
								9/ 6/1986	19.94	R	S	-	-
								9/ 6/1986	19.93	R	S	-	-
								2/27/1987	5.89	-	S	-	-
								3/13/1986	15.70	-	S	09/05/1986	8.30
								4/18/1986	16.55	-	S	-	-
								5/13/1986	16.10	-	S	-	-
								6/18/1986	16.15	P	S	-	-
								7/22/1986	16.15	-	S	-	-
								8/20/1986	16.15	U	S	-	-
								8/20/1986	16.10	U	S	-	-
								9/ 4/1986	15.77	-	S	-	-
								10/23/1986	15.35	-	S	-	-
								11/20/1986	15.47	R	S	-	-
								11/20/1986	15.45	R	S	-	-
								12/16/1986	15.53	S	S	-	-

08N/30E-05K02	461208	1190455	343.00	32.0	32.00	32.00	H1	2/20/1986	16.37	-	S	09/05/1986	6.00	769
								4/18/1986	17.18	-	S			
								5/13/1986	16.78	U	S			
								5/13/1986	16.73	U	S			
								6/18/1986	16.98	P	S			
								7/22/1986	16.88	P	S			
								8/20/1986	16.88	P	S			
								9/ 5/1986	16.37	R	S			
								10/23/1986	16.18	P	S			
								11/20/1986	16.13	-	S			
								12/16/1986	16.19	-	S			
								1/15/1987	16.38	-	S			
								2/ 5/1987	16.38	-	S			
								2/27/1987	16.42	R	S			
								2/20/1986	34.79	-	S	09/03/1986	5.00	675
08N/30E-07E02	461137	1190649	380.00	55.0	55.00	55.00	H	9/ 3/1986	30.75	-	S			
08N/30E-07G02	461128	1190612	376.00	105.0	76.00	105.00	H	2/19/1986	37.11	-	S			
08N/30E-07G03	461129	1190604	371.00	39.0	39.00	39.00	H	2/19/1986	33.13	-	S	09/03/1986	1.60	396
08N/30E-07J02	461127	1190549	365.00	45.0	45.00	45.00	H	9/ 3/1986	28.82	-	S			
								2/26/1987	33.07	-	S			
								4/18/1986	28.40	-	S	09/04/1986	3.70	593
								5/13/1986	28.70	-	S			
								6/18/1986	27.70	-	S			
								7/22/1986	25.80	-	S			
								8/20/1986	25.30	-	S			
								9/ 4/1986	24.80	-	S			
								10/23/1986	25.34	-	S			
								11/20/1986	26.29	-	S			
								12/16/1986	27.00	-	S			
								1/15/1987	27.65	-	S			
								2/ 5/1987	28.05	-	S			
								2/26/1987	28.38	-	S			
								2/19/1986	21.10	U	S	09/04/1986	6.40	739
								2/19/1986	21.06	U	S			
								9/ 4/1986	16.34	-	S			

Local well number	Lat- itude	Long- itude	Altiti- ude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Use bottom (feet)	Date water measured	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C.)	
08N/30E-07L02	461124	1190636	381.00	48.6	43.60	48.60	H	2/18/1986	31.83	-	S	09/03/1986	3.90	579
08N/30E-07L03	461116	1190637	370.00	48.0	48.00	48.00	H	2/19/1986	27.33	-	S	--	--	--
08N/30E-07W02	461111	1190648	380.00	55.0	45.00	55.00	H	2/20/1986	32.39	-	S	09/04/1986	4.00	610
08N/30E-07P02	461103	1190624	361.00	43.0	39.00	43.00	H	9/ 4/1986	28.70	-	S	--	--	--
08N/30E-07Q04	461102	1190606	362.00	38.0	38.00	38.00	H	2/24/1987	32.39	U	S	--	--	--
08N/30E-08E01	461128	1190541	362.00	74.0	74.00	74.00	H	2/24/1987	32.38	U	S	--	--	--
08N/30E-09C01	461141	1190404	343.00	182.0	85.00	182.00	H	3/12/1986	17.98	-	S	--	--	--
08N/30E-09C02	461151	1190406	335.00	94.0	74.50	94.00	U	9/ 4/1986	13.90	-	S	--	--	--
								2/24/1987	17.50	-	S	--	--	--
								3/12/1986	18.20	-	S	09/04/1986	9.20	928
								9/ 4/1986	14.08	U	S	--	--	--
								9/ 4/1986	14.10	U	S	--	--	--
								9/ 4/1986	14.06	U	S	--	--	--
								9/ 4/1986	14.05	U	S	--	--	--
								2/24/1987	17.68	-	S	--	--	--
								3/12/1986	31.50	-	S	09/11/1986	5.50	726
								9/11/1986	28.20	-	S	--	--	--
								2/24/1987	31.31	-	S	--	--	--
								2/21/1986	5.07	-	S	09/05/1986	< 0.1	402
								9/ 5/1986	18.96	R	S	--	--	--
								9/ 5/1986	17.32	R	S	--	--	--
								9/ 5/1986	16.90	R	S	--	--	--
								9/ 5/1986	16.58	R	S	--	--	--
								9/ 5/1986	16.43	R	S	--	--	--
								2/27/1987	5.78	-	S	--	--	--
								3/12/1986	0.48	-	S	09/05/1986	1.90	737

9/ 5/1986	S	13.46	R	815
9/ 5/1986	S	10.47	R	
9/ 5/1986	S	7.88	R	
9/ 5/1986	S	7.84	R	
9/ 5/1986	S	7.80	R	
2/27/1987	S	3.07	U	
2/27/1987	S	3.12	U	
2/27/1987	S	3.11	U	
2/27/1987	S	21.13	-	
3/12/1986	S	20.32	R	
9/ 5/1986	S	20.29	R	
9/ 5/1986	S	20.28	R	
2/27/1987	S	21.40	-	
2/21/1986	S	25.66	-	
9/ 4/1986	S	25.24	-	
2/24/1987	S	25.90	-	
3/12/1986	S	29.30	-	
9/ 4/1986	S	30.75	-	
2/24/1987	S	30.60	-	
3/14/1986	S	23.75	-	
9/ 6/1986	S	23.71	-	
2/24/1987	S	24.43	-	
4/18/1986	S	17.95	-	
5/13/1986	S	15.50	-	
6/18/1986	S	15.10	-	
7/22/1986	S	15.60	-	
8/20/1986	S	15.60	-	
9/ 6/1986	S	15.28	-	
10/23/1986	S	15.40	-	
11/20/1986	S	15.74	-	
12/16/1986	S	15.93	-	
1/15/1987	S	16.15	-	
2/ 5/1987	S	16.31	-	
2/24/1987	S	16.37	-	
3/26/1986	F	0.00	-	
3/ 4/1987	F	0.00	-	
3/28/1986	P	18.40	T	09/05/1986
9/ 4/1986	S	17.70	-	
2/27/1987	S	18.74	-	
3/14/1986	S	21.13	-	5.80
9/ 6/1986	U	20.42	-	5.30
461123	1190405	350.00	43.0	08N/30E-09L02
461114	1190301	362.00	49.0	08N/30E-10M03
461049	1190131	360.00	50.0	08N/30E-14C01
461032	1190141	357.00	160.0	08N/30E-14M01
461023	1190234	351.00	34.0	08N/30E-15K01
461010	1190310	338.00	245.0	08N/30E-15N01
461048	1190338	357.00	34.0	08N/30E-16B03
461045	1190356	350.00	50.0	08N/30E-16F01

Local well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Use of water bottom (feet)	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate plus-nitrite as N (milli- grains per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
08N/30E-16N02							9/ 6/1986	20.45	U	S	--	--	--
							9/ 6/1986	20.64	R	S	--	--	--
							9/ 6/1986	20.44	R	S	--	--	--
08N/30E-17C01	461013	1190415	350.00	254.0	143.00	206.00	P	2/24/1987	21.35	-	S	--	--
08N/30E-17C01	461100	1190513	421.00	107.0	100.00	107.00	H	3/ 3/1987	24.66	R	S	--	--
08N/30E-17D04	461056	1190527	422.00	97.5	92.50	97.50	H	2/21/1986	85.87	-	S	09/04/1986	4.50
08N/30E-17F05	461043	1190517	423.00	100.0	90.00	100.00	HI	9/ 4/1986	83.45	-	S	--	835
08N/30E-17F06	461045	1190523	408.00	155.0	83.00	155.00	H	2/24/1987	85.88	-	S	--	--
08N/30E-17L01	461029	1190516	380.00	51.0			3/ 28/1986	82.70	-	T	--	--	--
08N/30E-17R01	461011	1190438	355.00	40.5	40.50	40.50	H	9/ 4/1986	77.34	-	S	--	--
08N/30E-20A01	460956	1190444	361.00	155.0	139.00	155.00	H	2/24/1987	80.12	-	S	--	--
08N/30E-20G01	460944	1190505	450.00	325.0	102.00	325.00	H	2/20/1986	17.10	R	S	09/03/1986	< 0.1
							9/ 3/1986	21.80	-	S	--	--	--
							2/24/1987	14.55	-	S	--	--	--
							2/20/1986	42.86	R	S	09/03/1986	3.10	--



Local well number	Latitude	Longitude	Altitude of LSD (feet)	Well depth (feet)	Opening top (feet)	Use bottom (feet)	Date water measured	Water level (feet)	Status	Method	Sampling date	Total nitrate plus-nitrite as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
08N/30E-21Q0301	460921	1190336	370.00	140.0	20.00	140.00	H	2/20/1986	23.20	S	09/03/1986	0.30	420
08N/30E-21R01	460928	1190329	362.00	122.0	19.00	22.00	H	3/11/1986	12.20	S	09/04/1986	4.90	2170
08N/30E-22D004	461005	1190310	340.00	26.0	26.00	26.00	H	3/11/1986	9.25	S	09/04/1986	4.80	905
08N/30E-22G02D1	460946	1190225	340.00	250.0	P	2/21/1986	4.83	-	S	09/10/1986	< 0.1	535	
08N/30E-22H02	460948	1190211	340.00	28.0	23.00	28.00	H	2/22/1986	13.98	S	09/08/1986	5.90	755
08N/30E-22J02	460939	1190210	345.00	30.0	30.00	30.00	H	3/ 4/1987	14.11	S	09/04/1986	4.60	691
08N/30E-22M01	460938	1190312	352.00	225.0	24.00	225.00	H	2/20/1986	14.03	S	09/04/1986	0.20	719
08N/30E-22M02	460931	1190305	361.00	29.5	26.50	29.50	H	2/22/1986	4.96	R	09/04/1986	3.20	559
08N/30E-22N02	460925	1190309	361.00	153.0	29.00	153.00	H1	2/21/1986	20.95	S	09/04/1986	6.10	722

08N/30E-22P01	460923	1190250	365.00	35.0	35.00	35.00	U	4/ 9/1986	27.20	U	S	S	-	20.08
								4/ 9/1986	27.40	U	S	S	-	
								4/14/1986	27.20	U	S	S	-	
								5/ 9/1986	24.30	-	S	S	-	
								6/16/1986	22.18	-	S	S	-	
								8/25/1986	20.98	-	S	S	-	
								9/17/1986	21.11	-	S	S	-	
								10/23/1986	22.65	-	S	S	-	
								12/ 1/1986	24.36	-	S	S	-	
								1/28/1987	26.17	U	S	S	-	
								1/28/1987	27.07	U	S	S	-	
								3/18/1987	27.26	-	S	S	-	
								4/15/1987	27.23	-	S	S	-	
								6/10/1987	23.82	-	S	S	-	
								3/11/1986	13.50	-	S	S	-	4.50
								9/ 4/1986	11.90	-	S	S	-	985
								2/24/1987	13.63	-	S	S	-	
								3/11/1986	9.30	-	S	S	-	
								9/ 4/1986	8.00	-	S	S	-	
								2/25/1987	9.70	-	S	S	-	
								5/13/1986	17.60	-	S	S	-	
								6/18/1986	17.50	-	S	S	-	
								7/22/1986	17.90	-	S	S	-	
								8/20/1986	18.20	-	S	S	-	
								9/11/1986	18.32	-	S	S	-	
								10/23/1986	18.16	U	S	S	-	
								11/20/1986	17.70	-	S	S	-	
								12/16/1986	18.50	U	S	S	-	
								1/15/1987	18.60	-	S	S	-	
								2/ 5/1987	18.85	-	S	S	-	
								2/25/1987	19.00	-	S	S	-	
								3/18/1986	14.70	-	S	S	-	1.40
								9/ 9/1986	14.70	-	S	S	-	415
								2/25/1987	15.20	-	S	S	-	
								3/13/1986	9.89	-	S	S	-	431
								9/ 4/1986	9.13	-	S	S	-	
								2/25/1987	10.08	-	S	S	-	
								2/21/1986	9.15	R	S	S	< 0.1	445
								2/21/1986	9.13	R	S	S	-	
								9/ 4/1986	9.05	U	S	S	-	
08N/30E-22q02	460926	1190227	349.00	52.0	31.00	52.00	H							
								26.00	52.00					
08N/30E-22R04	460922	1190212	352.00	52.0	23.00	25.00	H							3.50
08N/30E-23A03	460953	1190057	361.00	53.5			U							
08N/30E-23D01	461002	1190154	355.00	105.0	27.00	105.00	H							
08N/30E-23D02	461001	1190156	345.00	20.5	20.00	20.50	H							
08N/30E-23E03	460945	1190146	343.00	47.0	33.00	47.00	H							

Local well number	Latitude	Longitude	Altitude of LSD (feet)	Well depth (feet)	Opening top (feet)	Use of bottom water (feet)	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate plus nitrite as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
08N/30E-23N01	460916	1190157	350.00	30.0	30.00	30.00	U	9/ 4/1986	9.10	U	S	--	--
08N/30E-23N02	460914	1190142	350.00	228.0	200.00	228.00	U	2/25/1987	9.55	-	S	--	--
08N/30E-23P01	460915	1190123	350.00	32.0	32.00	32.00	H	3/12/1986	13.49	-	S	--	--
08N/30E-23R01	460914	1190045	340.00	30.0	10.00	29.00	U	9/ 8/1986	12.30	-	S	--	--
08N/30E-24N03	460917	1190027	350.00	30.0	30.00	30.00	U	2/25/1987	13.55	-	S	--	--
08N/30E-25C01	460911	1190019	345.00	30.0	30.00	30.00	U	3/12/1986	6.22	-	S	--	--
								9/ 8/1986	21.30	-	S	--	--
								2/25/1987	6.40	-	S	--	--
								3/12/1986	15.62	-	S	09/08/1986	4.40
								9/ 8/1986	15.35	-	S	--	--
								2/25/1987	15.71	-	S	--	--
								2/21/1986	8.90	-	T	--	--
								9/11/1986	8.55	-	S	--	--
								2/25/1987	9.00	-	S	--	--
								2/21/1986	19.40	U	S	--	--
								2/21/1986	19.70	U	S	--	--
								9/11/1986	19.20	-	T	--	--
								2/25/1987	19.85	-	S	--	--
								2/21/1986	9.30	-	T	--	--
								4/18/1986	9.20	-	S	--	--
								5/13/1986	9.25	-	S	--	--
								6/18/1986	9.20	-	S	--	--
								7/22/1986	9.15	-	S	--	--
								8/20/1986	9.20	-	S	--	--
								9/11/1986	9.20	-	S	--	--
								10/23/1986	9.20	-	S	--	--
								11/20/1986	9.27	-	S	--	--
								12/16/1986	9.33	-	S	--	--
								1/15/1987	9.30	-	S	--	--
								2/ 5/1987	9.40	-	S	--	--
								2/25/1987	9.27	-	S	--	--
								3/17/1986	11.70	P	S	09/08/1986	7.70
08N/30E-25D01	460905	1190036	350.00	40.0	35.00	40.00	H						880

9/ 8/1986	11.10	R	S	--
9/ 8/1986	12.15	R	S	--
2/25/1987	12.00	-	S	--
3/ 4/1987	11.73	-	S	--
3/12/1986	4.25	R	S	--
3/12/1986	2.43	R	S	--
3/12/1986	1.42	R	S	--
2/27/1987	0.44	-	S	--
3/12/1986	18.70	-	S	--
9/ 8/1986	17.95	-	S	--
2/25/1987	18.73	-	S	--
3/13/1986	18.13	-	S	--
9/ 8/1986	17.60	-	S	--
2/25/1987	18.20	-	S	--
3/12/1986	14.33	-	S	--
9/ 8/1986	13.49	-	S	--
2/25/1987	14.27	-	S	--
3/12/1986	15.85	-	S	--
9/ 9/1986	14.65	-	S	--
2/25/1987	15.87	-	S	--
3/17/1986	10.55	P	S	--
9/ 9/1986	8.50	-	S	--
2/25/1987	10.90	-	S	--
2/21/1986	19.94	-	S	--
9/ 8/1986	19.43	U	S	--
2/25/1987	19.99	-	S	--
3/17/1986	21.40	P	T	--
9/ 8/1986	23.70	P	T	--
2/25/1987	21.60	P	T	--
9/ 8/1986	54.60	P	T	--
2/25/1987	49.60	P	T	--
3/18/1986	19.55	P	S	--
9/10/1986	19.00	-	S	--
2/27/1987	19.66	-	S	--
3/13/1986	6.08	-	S	--
9/ 9/1986	26.30	U	T	--
2/25/1987	3.62	-	S	--
3/18/1986	7.70	P	S	--

Local well number	Lat- titude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Use bottom (feet)	Date water measured	Water level (feet)	Status	Method	Sampling date	Total plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
08N/30E-26a02	460827	1190112	345.00	100.0	18.50	100.00	H	9/ 9/1986	5.50	-	S	--	--
								2/25/1987	7.54	-	S	--	--
								3/17/1986	1.45	P	S	09/10/1986	1.30
								9/10/1986	12.05	-	S	--	--
								2/25/1987	1.86	-	S	--	--
								3/12/1986	13.50	P	S	09/09/1986	2.10
								9/ 9/1986	9.75	-	S	--	--
								2/25/1987	13.90	P	S	--	--
								9/10/1986	8.50	-	T	09/10/1986	0.10
								2/25/1987	8.81	R	S	--	--
								2/25/1987	8.80	R	S	--	--
								3/12/1986	21.30	-	S	09/09/1986	1.10
								9/ 9/1986	39.03	U	S	--	--
								9/ 9/1986	39.00	U	S	--	--
								2/25/1987	21.91	R	S	--	--
								2/25/1987	21.90	R	S	--	--
								3/ 4/1987	21.32	-	S	--	--
								2/18/1986	11.59	U	S	--	--
								2/18/1986	11.55	U	S	--	--
								9/ 9/1986	27.70	-	S	--	--
								2/25/1987	11.85	-	S	--	--
								3/13/1986	15.25	P	S	09/10/1986	5.50
								9/10/1986	31.60	U	T	--	--
								2/26/1987	14.45	-	S	--	--
								3/12/1986	11.20	P	S	09/09/1986	< 0.1
								9/ 9/1986	27.55	-	S	--	--
								2/25/1987	11.70	-	S	--	--
								3/12/1986	5.60	-	S	09/09/1986	< 0.1
								9/ 9/1986	24.60	-	S	--	--
								2/25/1987	3.75	-	S	--	--
								3/14/1986	51.85	-	S	09/11/1986	26.00



Local well number	Lat- itude	Long- itude	Altiti- tude of LSD (feet)	Well depth (feet)	open- ing top (feet)	use bottom (feet)	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)	
08N/30E-34B01D1	460813	1190226	454.00	59.0	36.00	47.00	H	3/11/1986	30.60	S	--	--	--	
08N/30E-34B02	460818	1190229	450.00	56.0	56.00	56.00	H	3/11/1986	22.70	P	09/09/1986	12.00	1390	
08N/30E-34G01	460756	1190233	510.00	105.0	87.00	105.00	H	9/ 9/1986	33.75	S	--	--	--	
08N/30E-34G02D1	460758	1190231	490.00	71.0	46.00	56.00	U	3/11/1986	67.60	S	--	--	427	
08N/30E-34J01	460747	1190200	477.00	260.0	76.00	260.00	I	2/26/1987	67.35	S	--	--	--	
08N/30E-34J02	460752	1190209	480.00	80.0	80.00	80.00	H	3/12/1986	168.70	P	09/10/1986	< 0.1	380	
08N/30E-34K01	460752	1190219	490.00	60.0	50.00	60.00	H	3/ 3/1987	132.00	R	T	--	--	
08N/30E-34q01	460730	1190236	639.00	155.0	139.00	155.00	H	3/14/1986	52.50	P	S	09/09/1986	5.10	572
								2/26/1987	30.30	P	S	--	--	--
								3/13/1986	125.00	T	--	--	--	--
								4/18/1986	125.80	T	--	--	--	--
								5/13/1986	125.40	T	--	--	--	--
								6/18/1986	126.00	T	--	--	--	--
								7/22/1986	125.40	P	T	--	--	--
								8/20/1986	125.10	-	T	--	--	--
								9/11/1986	125.30	-	T	--	--	--
								10/23/1986	125.00	-	T	--	--	--
								11/20/1986	124.70	-	T	--	--	--
								12/16/1986	125.70	-	T	--	--	--
								1/15/1987	126.00	-	T	--	--	--

08N/30E-34Q02	460756	1190228	583.00	148.0	145.00	147.00	H	2/ 5/1987	126.30	-	T	--	T	--	T	--	T	--	--	--	--	492
08N/30E-35D01	460811	1190149	425.00	225.0	47.00	225.00	U	3/13/1986	119.60	P	9/ 9/1986	119.75	-	S	--	T	--	T	--	09/09/1986	3.90	
								2/25/1987	126.10	-	2/26/1987	119.10	-	S	--							
								3/18/1986	83.90	-	3/14/1986	90.00	-	T	--							
								5/ 9/1986	95.86	-	6/16/1986	106.78	-	S	--							
								6/16/1986	106.78	-	6/16/1986	106.79	-	S	--							
								7/14/1986	108.02	-	8/25/1986	111.35	-	S	--							
								9/17/1986	96.52	-	10/23/1986	90.08	-	S	--							
								12/ 1/1986	85.82	-	1/28/1987	83.66	-	S	--							
								2/18/1987	84.57	-	3/18/1987	84.46	-	S	--							
								4/15/1987	91.28	-	6/ 9/1987	107.78	-	S	--							
								3/14/1986	28.90	-	9/10/1986	30.30	-	T	--							
								2/26/1987	29.80	-	3/17/1986	14.05	-	S	--							
								9/10/1986	14.15	P	2/26/1987	13.76	-	S	--							
								3/17/1986	88.20	-	9/10/1986	112.00	U	T	--							
								2/26/1987	86.40	-	3/14/1986	21.89	-	S	--							
								4/16/1986	22.03	-	5/15/1986	22.50	-	S	--							
								6/17/1986	23.00	-	7/15/1986	23.15	-	S	--							
								8/18/1986	23.40	-	9/16/1986	23.37	-	S	--							
								10/21/1986	23.10	-	11/18/1986	22.48	-	S	--							
								12/10/1986	23.19	-	1/13/1987	23.45	-	S	--							
								2/ 3/1987	23.62	-	2/27/1987	23.49	-	S	--							

Local well number	Lat- itude	Long- itude	Altiti- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Use bottom (feet)	Date water measured	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)	
09N/27E-02D03D1	461802	1192413	541.00	375.0	327.00	367.00	H	9/ 6/1986	142.90	R	T	09/06/1986	6.00	578
09N/27E-02E01	461746	1192415	535.00	273.0	234.00	273.00	H	9/ 6/1986	142.50	R	T	--	--	--
09N/27E-02L01	461724	1192357	535.00	120.0	86.00	120.00	H	2/27/1987	122.80	C	T	--	--	--
09N/27E-03B01	461801	1192506	518.00	275.0	121.00	275.00	I	3/13/1986	111.58	-	S	09/08/1986	6.90	610
09N/27E-03R01	461718	1192429	547.00	200.0			U	2/27/1987	113.37	R	S	--	--	--
09N/27E-03R02	461719	1192438	570.00	280.0	260.00	280.00	H	3/14/1986	144.58	-	S	--	--	--
09N/27E-05D01D1	461752	1192806	510.00	150.0			H	3/20/1986	40.50	D	S	--	--	--
09N/27E-05E01	461741	1192808	480.00	38.0	33.00	38.00	H	2/27/1987	147.94	-	S	--	--	--
09N/27E-05H01	461738	1192714	730.00	400.0			H	3/21/1986	42.23	-	S	09/06/1986	< 0.1	470
09N/27E-06A01	461755	1192821	455.00	104.0	65.50	104.00	H	2/27/1987	292.43	U	S	09/05/1986	< 0.1	442
								2/26/1987	14.31	-	S	--	--	--
								3/20/1986	286.40	-	S	--	--	--
								2/27/1987	292.42	U	S	--	--	--
								3/21/1986	286.40	-	S	--	--	--
								9/ 5/1986	10.68	R	S	--	--	--
								9/ 5/1986	10.66	R	S	--	--	--
								9/ 5/1986	10.64	R	S	--	--	--



Local well number	Latitude	Longitude	Altitude of LSD (feet)	Well depth (feet)	Opening top (feet)	Bottom water level measured	Date	Water level (feet)	Status	Method	Sampling date	Total plus-nitrite as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
09N/27E-16D01	461610	1192653	688.00	760.0	306.00	580.00	U	3/13/1986	190.44	-	S	..	..
					690.00	700.00		4/16/1986	189.99	-	S	..	..
					700.00	760.00		5/15/1986	195.00	U	S	..	..
								5/15/1986	194.70	U	S	..	..
								6/17/1986	208.50	-	T	..	..
								7/15/1986	216.00	-	S	..	..
								8/18/1986	224.25	-	S	..	..
								9/16/1986	222.27	-	S	..	..
								10/21/1986	209.94	-	S	..	..
								11/18/1986	203.50	U	S	..	..
								12/10/1986	200.95	U	S	..	..
								12/10/1986	200.90	U	S	..	..
								1/13/1987	196.10	-	S	..	..
								2/ 3/1987	194.00	-	S	..	..
								2/27/1987	191.90	-	S	..	..
								3/21/1986	221.30	-	T	..	..
								9/ 6/1986	230.40	-	T	..	..
								2/27/1987	222.00	-	T	..	..
								3/20/1986	168.00	P	S	09/05/1986	5.70
09N/27E-17A01	461615	1192706	685.00	440.0	98.00	440.00	U	..	..	..	..	..	560
09N/27E-17P01	461532	1192751	630.00	252.0	152.00	252.00	H	..	..	..	..	..	..



Local well number	Latitude	Longitude	Altitude of LSD (feet)	Well depth (feet)	Opening top (feet)	Opening bottom (feet)	Water level measured (feet)	Date	Water level (feet)	Status	Method	Sampling date	Total nitrate-plus-nitrite as N (milligrams per Liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
09N/27E-21C01	461524	1192644	725.00	405.0	370.00	405.00	P	5/15/1986	253.00	U	S	--	--	--
								6/17/1986	248.85	U	S	--	--	--
								7/15/1986	247.75	U	S	--	--	--
								8/18/1986	247.05	-	S	--	--	--
								9/ 2/1986	246.21	-	S	--	--	--
								9/16/1986	245.94	U	S	--	--	--
								10/21/1986	245.99	U	S	--	--	--
								11/18/1986	247.10	U	S	--	--	--
								12/10/1986	248.60	U	S	--	--	--
								2/ 3/1987	250.40	U	S	--	--	--
								2/26/1987	250.75	U	S	--	--	--
								2/26/1987	250.78	U	S	--	--	--
								5/ 6/1987	251.20	-	S	--	--	--
								7/ 1/1987	248.88	U	S	--	--	--
								3/21/1986	270.40	-	T	09/06/1986	4.20	425
								9/ 6/1986	278.07	-	S	--	--	--
								2/28/1987	269.35	-	S	--	--	--
								4/17/1986	317.63	V	S	--	--	--
								9/ 6/1986	371.00	P	A	--	--	--
								2/28/1987	312.00	-	A	--	--	--
								2/22/1986	142.29	-	S	--	--	--
								2/18/1986	23.93	R	S	09/02/1986	5.40	732
								9/ 2/1986	24.28	R	S	--	--	--
								9/ 2/1986	24.04	R	S	--	--	--
								9/ 2/1986	23.99	R	S	--	--	--
								2/26/1987	24.80	R	S	--	--	--
								2/26/1987	24.44	R	S	--	--	--
								2/26/1987	24.52	R	S	--	--	--
								2/26/1987	24.23	R	S	--	--	--
								2/26/1987	24.20	R	S	--	--	--
								2/26/1987	24.17	R	S	--	--	--

09N/27E-29J02	461400	1192716	580.00	100.0	100.00	100.00	U	2/22/1986	46.90	-	S	--
								9/ 2/1986	46.43	-	S	--
								2/26/1987	46.80	-	S	09/02/1986
								2/18/1986	59.96	-	S	--
								9/ 2/1986	59.36	-	S	--
								2/26/1987	59.83	-	S	--
								2/19/1986	104.90	-	S	09/02/1986
								4/16/1986	107.22	R	S	--
								4/16/1986	107.20	R	S	--
								4/16/1986	107.18	R	S	--
								4/16/1986	107.16	R	S	--
								5/15/1986	107.25	-	S	--
								6/17/1986	107.10	-	S	--
								7/15/1986	122.75	P	S	--
								8/18/1986	125.10	-	S	--
								9/ 2/1986	105.54	-	S	--
								10/21/1986	108.40	-	T	--
								11/18/1986	103.90	-	S	--
								12/10/1986	105.40	-	T	--
								1/13/1987	106.00	-	T	--
								2/ 3/1987	106.10	-	T	--
								2/26/1987	105.53	-	S	--
								2/21/1986	82.46	-	S	--
								9/ 2/1986	78.27	-	S	--
								2/26/1987	81.69	-	S	--
								9/ 5/1986	12.58	-	S	--
								2/26/1987	13.07	-	S	--
								5/14/1986	21.13	-	S	--
								6/19/1986	20.68	-	S	--
								7/21/1986	24.98	U	S	--
								8/19/1986	25.48	-	S	--
								9/17/1986	21.36	-	S	--
								10/22/1986	21.83	-	T	T
								11/19/1986	22.28	-	S	--
								12/15/1986	24.80	-	S	--
								1/14/1987	23.10	-	R	--
								2/ 3/1987	24.50	-	S	--
								2/27/1987	22.53	R	S	--
								3/27/1987	22.46	R	S	--
09N/27E-29J03	461358	1192712	588.00	98.0	96.00	98.00	H	2/18/1986	59.96	-	S	--
09N/27E-35E01	461319	1192424	665.00	160.0	160.00	160.00	H1	2/26/1987	59.83	-	S	--
								4/16/1986	104.90	-	S	09/02/1986
								4/16/1986	107.22	R	S	--
								4/16/1986	107.20	R	S	--
								4/16/1986	107.18	R	S	--
								4/16/1986	107.16	R	S	--
								5/15/1986	107.25	-	S	--
								6/17/1986	107.10	-	S	--
								7/15/1986	122.75	P	S	--
								8/18/1986	125.10	-	S	--
								9/ 2/1986	105.54	-	S	--
								10/21/1986	108.40	-	T	--
								11/18/1986	103.90	-	S	--
								12/10/1986	105.40	-	T	--
								1/13/1987	106.00	-	T	--
								2/ 3/1987	106.10	-	T	--
								2/26/1987	105.53	-	S	--
								2/21/1986	82.46	-	S	--
								9/ 2/1986	78.27	-	S	--
								2/26/1987	81.69	-	S	--
								9/ 5/1986	12.58	-	S	--
								2/26/1987	13.07	-	S	--
								5/14/1986	21.13	-	S	--
								6/19/1986	20.68	-	S	--
								7/21/1986	24.98	U	S	--
								8/19/1986	25.48	-	S	--
								9/17/1986	21.36	-	S	--
								10/22/1986	21.83	-	T	T
								11/19/1986	22.28	-	S	--
								12/15/1986	24.80	-	S	--
								1/14/1987	23.10	-	R	--
								2/ 3/1987	24.50	-	S	--
								2/27/1987	22.53	R	S	--
								3/27/1987	22.46	R	S	--
09N/27E-36R02	461249	1192218	661.00	153.0	153.00	153.00	U	09/05/1986	7.80	--	S	--
09N/28E-02G01	461741	1191619	359.00	31.0	31.00	31.00	I	09/05/1986	7.80	--	S	--
09N/28E-02G02	461738	1191610	360.00	75.0	45.00	75.00	2I	09/05/1986	7.80	--	S	--

Local well number	Latitude	Longitude	Altitude of LSD (feet)	Well depth (feet)	Opening top (feet)	Use bottom (feet)	Date water measured	Water level (feet)	Status	Method	Sampling date	Total nitrate plus-nitrite as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
09N/28E-02G04	461736	1191610	360.00	23.0	22.00	23.00	U	3/10/1986	14.00	I	T	-	-
09N/28E-02M01D1	461733	1191658	381.00	40.0	U	2/21/1986	0.00	D	S	-	-	-	-
09N/28E-02M02	461728	1191655	378.00	90.0	89.00	90.00	H	3/11/1986	31.39	-	S	-	-
09N/28E-02N01D1	461710	1191646	362.00	148.0	148.00	148.00	I	9/ 5/1986	32.88	-	S	-	-
09N/28E-03G01	461747	1191723	387.00	65.3	65.30	65.30	I	2/21/1986	7.71	U	S	09/05/1986 < 0.1	152
09N/28E-03P01	461716	1191756	405.00	115.0	115.00	115.00	I	2/20/1986	35.16	-	S	09/05/1986	8.60
09N/28E-04C04	461750	1191908	371.00	H	2/22/1986	48.12	-	9/ 5/1986	47.62	-	S	-	223
					2/27/1987	34.85	-	2/27/1987	47.53	-	S	-	-
					2/22/1986	11.77	U	2/22/1986	12.59	U	S	09/05/1986 < 0.1	600
					2/22/1986	10.88	U	2/22/1986	10.86	U	S	-	-
					2/22/1986	11.47	U				S	-	-



Local Well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Use of bottom (feet)	Date water measured	Water level (feet)	Status water level	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
09N/28E-04J02	461727	1191821	383.00	230.0	190.00	230.00	1	4/25/1986	22.57	-	S	--	--
09N/28E-04P01D1	461716	1191906	361.00	100.0	42.00	0.99	1	9/ 6/1986	30.12	-	S	--	--
09N/28E-05A01D1	461754	1191935	370.00	220.0	170.00	220.00	1	2/22/1986	5.14	-	S	--	--
09N/28E-05B01	461752	1192007	375.00	68.7	68.70	68.70	1	9/ 6/1986	37.25	P	S	--	--
09N/28E-05E01	461749	1192039	419.00	73.0	67.00	73.00	H1	2/21/1986	5.99	-	S	--	--
09N/28E-05F01	461744	1192020	390.00	43.0	38.00	43.00	Z	9/ 6/1986	14.60	-	S	09/06/1986	0.10
09N/28E-05F02	461744	1192020	390.00	45.0	41.00	45.00	U	2/26/1987	174.03	-	S	--	--
09N/28E-05G01	461741	1191950	365.00	107.0	102.00	107.00	H1	2/27/1987	15.97	-	S	--	--
09N/28E-05H01	461742	1191932	361.00	93.0	93.00	93.00	H	2/21/1986	9.64	-	S	09/06/1986	< 0.1
								9/ 6/1986	7.57	-	S	--	--
								3/ 2/1987	8.47	-	S	--	--
								2/21/1986	42.93	-	S	09/06/1986	< 0.1
								9/ 6/1986	39.22	-	S	--	--
								2/26/1987	43.08	-	S	--	--
								2/20/1986	22.38	-	S	--	--
								9/ 6/1986	12.21	-	S	--	--
								3/ 1/1987	22.47	-	S	--	--
								2/20/1986	22.07	-	S	09/06/1986	0.40
								9/ 6/1986	11.95	I	S	--	--
								3/ 1/1987	22.16	-	S	--	--
								2/22/1986	4.28	-	S	09/06/1986	< 0.1
								9/ 6/1986	11.81	-	S	--	--
								2/27/1987	3.35	-	S	--	--
								2/27/1986	6.10	-	S	09/06/1986	< 0.1
								9/ 6/1986	37.80	-	S	--	--
								2/27/1987	12.92	R	S	--	--
								2/27/1987	11.02	R	S	--	--
								2/27/1987	9.36	R	S	--	--
								2/27/1987	8.53	R	S	--	--
								2/27/1987	8.00	R	S	--	--
								2/27/1987	7.59	R	S	--	--

09N/28E-06A01	461800	1192051	410.00	250.0	100.00	125.00	P	2/24/1986	36.74	-	S	--
			177.00	200.00	90.20	250.00	R	9/ 8/1986	50.00	P	G	--
09N/28E-06A02	461751	1192054	455.00	90.2	76.00	90.20	R	2/22/1986	67.50	C	T	--
			200.00					2/27/1987	37.67	-	S	--
09N/28E-07C01	461705	1192134	643.00	540.0	166.00	540.00	U	2/22/1986	181.50	-	S	--
								9/ 8/1986	178.53	-	S	--
09N/28E-08B01	461658	1191951	628.00	354.0	18.00	354.00	H1	2/28/1987	175.98	-	S	--
								9/ 8/1986	254.12	U	S	09/08/1986 < 0.1
								9/ 8/1986	253.89	U	S	--
09N/28E-08C01	461706	1192018	525.00	204.0	186.00	204.00	H	9/ 9/1986	253.87	U	S	--
								2/28/1987	247.14	U	S	--
								2/28/1987	247.21	U	S	--
								3/10/1986	139.15	-	S	09/16/1986 0.60
								4/17/1986	142.36	R	S	--
								4/17/1986	142.03	R	S	--
								4/17/1986	141.94	R	S	--
								4/17/1986	141.86	R	S	--
								5/14/1986	141.68	-	S	--
								6/17/1986	163.53	-	S	--
								7/15/1986	145.53	-	S	--
								8/18/1986	146.98	-	S	--
								9/16/1986	147.11	-	S	--
								10/21/1986	146.49	-	S	--
								11/19/1986	144.93	R	S	--
								11/19/1986	144.73	R	S	--
								12/10/1986	143.63	-	S	--
								1/13/1987	145.63	P	S	--
								2/ 3/1987	143.38	U	S	--
								2/28/1987	148.13	R	S	--
								2/28/1987	141.03	R	S	--
								2/28/1987	141.01	R	S	--
								3/30/1987	141.15	-	S	--
								3/12/1986	205.21	-	S	09/08/1986 < 0.1
								9/ 8/1986	213.65	-	S	--
								3/30/1987	206.77	-	S	--
								2/22/1986	97.10	-	T	09/08/1986 3.10
09N/28E-08K01	461638	1191955	606.00	325.0	245.00	250.00	HR					620
						300.00						--
09N/28E-08R01	461623	1191937	542.00	260.0	110.00	260.00	H1					747
						321.00						--
												--
												--

Local well number	Latitude	Longitude	Altitude of LSD (feet)	Well depth (feet)	Opening top (feet)	Use bottom water (feet)	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate plus-nitrite as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
09N/28E-10F01	461656	1191749	405.00	68.0	68.00	68.00	1	2/24/1986	52.04	-	\$ 09/08/1986	6.10	548
09N/28E-10H04	461648	1191703	357.00	129.0	32.50	35.50	U	3/11/1986	51.59	-	\$ --	--	--
					57.00	61.00		3/2/1987	51.52	-	\$ --	--	--
					120.00	128.00		9/ 9/1986	7.78	-	\$ --	--	--
					128.00	129.00		3/ 2/1987	11.47	-	\$ --	--	--
								--	7.51	-	\$ --	--	--
09N/28E-10J02	461637	1191711	402.01	66.0	54.00	58.00	U	9/ 9/1986	51.25	-	\$ --	--	--
09N/28E-10J04	461631	1191703	358.00	62.0	66.00	66.00		3/ 2/1987	52.06	-	\$ --	--	--
					62.00	52.00	I	3/11/1986	10.98	-	\$ --	--	--
					62.00	62.00		9/ 8/1986	19.85	P	\$ --	--	--
09N/28E-11E01	461652	1191701	358.00	135.0	130.00	135.00	I	3/ 2/1987	11.33	-	\$ --	--	--
								2/21/1986	15.54	-	\$ 09/09/1986	< 0.1	260
								9/ 9/1986	60.50	P	T --	--	--
								3/ 2/1987	14.69	-	\$ --	--	--
09N/28E-12P01	461621	1191510	370.00	130.0	114.00	126.00	H	2/27/1986	29.37	-	\$ 09/10/1986	< 0.1	303
					130.00	130.00		9/10/1986	30.01	-	\$ --	--	--
								3/ 4/1987	30.16	-	\$ --	--	--
09N/28E-14P01	461527	1191626	355.00	46.0	41.00	46.00	N	2/26/1986	17.00	-	\$ 09/09/1986	1.30	522
								9/ 9/1986	13.91	R	\$ --	--	--
								9/ 9/1986	13.87	R	\$ --	--	--
								9/ 9/1986	13.86	R	\$ --	--	--
								2/26/1987	15.04	-	\$ --	--	--
09N/28E-15A01D1	461616	1191703	358.90	58.0	35.25	56.00	U	4/ 9/1986	17.80	-	\$ --	--	--
								9/ 9/1986	19.71	-	\$ --	--	--
								3/ 2/1987	20.22	-	\$ --	--	--
09N/28E-15G01	461600	1191732	415.00	95.0	95.00	95.00	Z	2/24/1986	68.14	-	\$ 09/09/1986	6.70	740
								9/ 9/1986	71.77	P	\$ --	--	--
								3/ 2/1987	68.24	-	\$ --	--	--
09N/28E-15H06D1	461552	1191703	359.00					3/11/1986	21.90	-	\$ 09/09/1986	3.70	780
								9/ 9/1986	42.64	R	\$ --	--	--
								9/ 9/1986	41.80	R	\$ --	--	--

09N/28E - 15H07D1	461601	1191703	359.00	P	3/ 2/1987	26.86	-	S	--	S	09/09/1986	3.00	--	--	740
					3/11/1986	21.60	-	S	--	S	09/09/1986	3.00	--	--	--
					9/ 9/1986	27.22	-	S	--	S	09/09/1986	3.00	--	--	--
					3/ 2/1987	25.98	-	S	--	S	09/09/1986	3.00	--	--	--
					3/11/1986	20.84	-	S	--	S	09/17/1986	1.90	--	--	674
					4/21/1986	20.54	-	S	--	S	09/17/1986	1.90	--	--	--
					5/13/1986	21.29	-	S	--	S	09/17/1986	1.90	--	--	--
					6/19/1986	21.84	-	S	--	S	09/17/1986	1.90	--	--	--
					7/21/1986	27.54	P	S	--	S	09/17/1986	1.90	--	--	--
					8/19/1986	32.54	P	S	--	S	09/17/1986	1.90	--	--	--
					9/17/1986	33.57	-	S	--	S	09/17/1986	1.90	--	--	--
					10/22/1986	23.60	U	S	--	S	09/17/1986	1.90	--	--	--
					11/19/1986	21.64	-	S	--	S	09/17/1986	1.90	--	--	--
					12/15/1986	21.44	-	S	--	S	09/17/1986	1.90	--	--	--
					1/14/1987	34.04	P	S	--	S	09/17/1986	1.90	--	--	--
					2/ 4/1987	44.54	P	S	--	S	09/17/1986	1.90	--	--	--
					3/ 2/1987	25.86	-	S	--	S	09/17/1986	1.90	--	--	--
					2/25/1986	50.43	-	S	--	S	09/17/1986	1.90	--	--	821
					9/ 9/1986	50.82	R	S	--	S	09/17/1986	1.90	--	--	--
					9/ 9/1986	49.99	R	S	--	S	09/17/1986	1.90	--	--	--
					9/ 9/1986	49.72	R	S	--	S	09/17/1986	1.90	--	--	--
					9/ 9/1986	49.56	R	S	--	S	09/17/1986	1.90	--	--	--
					9/ 9/1986	49.46	R	S	--	S	09/17/1986	1.90	--	--	--
					3/ 2/1987	49.93	-	S	--	S	09/17/1986	1.90	--	--	--
					3/12/1986	133.28	R	S	--	S	09/17/1986	1.90	--	--	1370
					3/12/1986	133.25	R	S	--	S	09/17/1986	1.90	--	--	--
					3/12/1986	133.23	R	S	--	S	09/17/1986	1.90	--	--	--
					3/12/1986	133.22	R	S	--	S	09/17/1986	1.90	--	--	--
					9/ 9/1986	167.89	R	S	--	S	09/17/1986	1.90	--	--	--
					9/ 9/1986	167.68	R	S	--	S	09/17/1986	1.90	--	--	--
					9/ 9/1986	167.33	R	S	--	S	09/17/1986	1.90	--	--	--
					3/ 2/1987	136.51	R	S	--	S	09/17/1986	1.90	--	--	--
					3/ 2/1987	136.31	R	S	--	S	09/17/1986	1.90	--	--	--
					3/ 2/1987	135.96	R	S	--	S	09/17/1986	1.90	--	--	--
					3/ 2/1987	135.98	U	S	--	S	09/17/1986	1.90	--	--	762
					4/17/1986	38.37	-	S	--	S	09/17/1986	1.90	--	--	--
					5/14/1986	34.70	U	S	--	S	09/17/1986	1.90	--	--	--
					6/19/1986	33.30	U	S	--	S	09/17/1986	1.90	--	--	--
					6/19/1986	33.50	U	S	--	S	09/17/1986	1.90	--	--	--
					7/21/1986	32.65	U	S	--	S	09/17/1986	1.90	--	--	--
					8/19/1986	32.50	-	S	--	S	09/17/1986	1.90	--	--	--

Local well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Use of bottom water (feet)	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
09N/28E-19J01	461456	1192100	856.00	542.0	500.00	540.00	U	4/17/1986	31.80	T	--	--	--
								10/22/1986	32.60	T	--	--	--
								11/19/1986	34.40	T	--	--	--
								12/15/1986	35.60	T	--	--	--
								1/14/1987	36.70	T	--	--	--
								2/ 4/1987	37.20	T	--	--	--
								3/ 2/1987	37.50	S	--	--	--
								4/17/1986	341.74	S	--	--	--
								9/ 9/1986	341.25	S	--	--	--
								2/28/1987	339.51	S	--	--	--
								3/14/1986	27.14	S	09/09/1986	24.00	1260
								9/ 9/1986	26.65	S	--	--	--
								3/ 2/1987	26.61	S	--	--	--
								3/14/1986	18.27	S	09/18/1986	13.00	164
								4/17/1986	20.57	S	--	--	--
								5/14/1986	20.42	S	--	--	--
								6/19/1986	20.92	S	--	--	--
								8/19/1986	20.62	S	--	--	--
								9/18/1986	20.93	S	--	--	--
								10/22/1986	20.23	U	--	--	--
								1/14/1987	20.17	U	--	--	--
								1/14/1987	20.12	U	--	--	--
								2/ 4/1987	20.42	S	--	--	--
								3/ 2/1987	19.97	S	--	--	--
								2/27/1986	38.43	S	09/17/1986	1.40	974
								4/17/1986	38.77	S	--	--	--
								5/14/1986	41.27	S	--	--	--
								6/19/1986	44.02	S	--	--	--
								7/21/1986	47.90	T	--	--	--
								8/19/1986	49.30	T	--	--	--
								9/17/1986	46.47	S	--	--	--
								10/22/1986	44.92	S	--	--	--



Local well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Open- ing bottom (feet)	Use of water	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
09N/28E-30J01	461356	1192106	812.00	800.0	686.00	740.00	I	3/19/1986	298.00	-	T	--	--	--
					800.00	800.00		4/17/1986	303.78	U	S	--	--	--
								5/14/1986	315.80	-	T	--	--	--
								6/19/1986	398.30	-	T	--	--	--
								7/21/1986	346.20	-	T	--	--	--
								8/19/1986	360.90	T	T	--	--	--
								9/ 9/1986	364.93	S	S	--	--	--
								9/ 9/1986	365.03	S	S	--	--	--
								9/ 9/1986	365.08	S	S	--	--	--
								10/22/1986	332.40	-	T	--	--	--
								11/19/1986	320.80	-	T	--	--	--
								12/15/1986	314.40	-	T	--	--	--
								1/14/1987	308.90	-	T	--	--	--
								2/ 4/1987	306.50	-	T	--	--	--
								2/28/1987	301.85	-	S	--	--	--
								3/14/1986	130.66	-	S	--	--	--
								4/16/1986	130.02	-	S	--	--	--
								5/14/1986	130.89	-	S	--	--	--
								6/19/1986	132.54	-	S	--	--	--
								7/15/1986	133.29	-	S	--	--	--
								8/18/1986	134.79	-	S	--	--	--
								9/16/1986	135.91	-	S	--	--	--
								10/21/1986	135.57	-	S	--	--	--
								11/18/1986	134.29	-	S	--	--	--
								12/10/1986	134.09	-	S	--	--	--
								1/13/1987	133.04	-	S	--	--	--
								2/ 3/1987	132.29	-	S	--	--	--
								2/26/1987	131.37	-	S	--	--	--
								3/14/1986	118.32	-	S	09/03/1986	12.00	547
09N/28E-31E02	461323	1192207	683.00	265.0	243.50	265.00	H	9/ 3/1986	135.23	U	S	--	--	--
								9/ 3/1986	135.12	U	S	--	--	--
								9/ 3/1986	135.29	U	S	--	--	--



Local well number	Latitude	Longitude	Altitude of LSD (feet)	Well depth (feet)	Open-ing top (feet)	Open-ing bottom (feet)	Water level measured (feet)	Date	Water level (feet)	Status	Method	Sampling date	Total nitrate plus-nitrite as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
09N/29E-02G04	461742	1190836	460.00	145.0	145.00	145.00	10/21/1986	113.40	-	T	-	-	-	-
09N/29E-02G06	461737	1190831	458.00	133.0	123.00	133.00	11/19/1986	115.90	-	T	-	-	-	-
							12/ 9/1986	111.40	-	T	-	-	-	-
							1/13/1987	111.80	-	T	-	-	-	-
							2/ 3/1987	111.60	-	T	-	-	-	-
							3/ 3/1987	111.90	U	S	-	-	-	-
								-	-	-	-	09/11/1986	17.00	851
										P	T	09/26/1986	18.00	832
09N/29E-04K01D1	461729	1191115	520.00	235.0	185.00	235.00	9/26/1986	109.60	P	T	-	-	-	-
09N/29E-06F01	461740	1191351	482.00	160.0	160.00	160.00	3/ 3/1987	106.50	-	T	-	-	-	-
							2/19/1986	171.40	P	T	-	-	-	-
							2/19/1986	126.40	-	T	-	-	-	-
							4/16/1986	127.10	-	T	-	-	-	-
							5/14/1986	126.70	-	S	-	-	-	-
							6/18/1986	126.60	-	S	-	-	-	-
							7/17/1986	126.20	U	S	-	-	-	-
							7/17/1986	126.30	U	S	-	-	-	-
							8/22/1986	125.60	-	S	-	-	-	-
							9/10/1986	125.46	-	S	-	-	-	-
							10/24/1986	125.45	U	S	-	-	-	-
							11/21/1986	125.50	U	S	-	-	-	-
							11/21/1986	125.55	U	S	-	-	-	-
							12/11/1986	125.65	U	S	-	-	-	-
							12/11/1986	125.62	U	S	-	-	-	-
							1/14/1987	125.35	U	S	-	-	-	-
							1/14/1987	124.25	U	S	-	-	-	-
							2/ 5/1987	126.15	U	S	-	-	-	-
							2/ 5/1987	126.20	U	S	-	-	-	-
							3/ 3/1987	126.44	-	S	-	-	-	-
							2/20/1986	125.50	-	S	-	09/10/1986	< 0.1	315
							4/16/1986	125.95	-	S	-	-	-	-
							5/14/1986	125.94	-	S	-	-	-	-



Local well number	Latitude	Altitude	Well depth of LSD (feet)	Open-ing top (feet)	Use bottom water (feet)	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate plus-nitrite as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
09N/29E-22D01	461512	1191029	395.00	86.0	86.00	3/ 3/1987	12.39	-	S	--	--	--
09N/29E-25L04	461356	1190752	348.00	49.0	45.00	1	2/21/1986	52.00	-	T	--	--
09N/29E-25N01	461349	1190814	353.00	30.0	30.00	H	3/ 5/1986	52.74	U	S	--	--
09N/29E-26J02	461400	1190823	355.00	40.0	35.00	1	9/ 10/1986	13.30	-	S	--	--
09N/29E-26L02	461400	1190910	361.00	35.0	35.00	H	3/ 2/1987	13.38	R	S	--	--
09N/29E-31L01	461302	1191402	545.00	100.0	90.00	95.00	2/25/1986	13.36	R	S	--	--
09N/29E-33M01	461305	1191202	508.00	292.0	181.00	292.00	1	4/18/1986	13.40	-	S	--
							9/ 6/1986	8.75	-	S	--	--
							9/ 6/1986	8.90	-	S	--	--
							3/ 3/1987	8.90	-	S	--	--
							3/ 3/1987	15.80	P	T	09/06/1986	9.70
							9/ 6/1986	15.72	-	S	--	--
							3/ 3/1987	15.78	-	S	--	--
							2/24/1986	21.70	P	S	09/10/1986	9.50
							9/10/1986	20.86	-	S	--	--
							3/ 3/1987	21.20	-	S	--	--
							2/26/1987	56.08	-	S	--	--
							3/11/1986	136.54	-	S	09/03/1986	0.40
							4/18/1986	137.05	-	S	--	--
							5/13/1986	135.65	-	S	--	--
							6/18/1986	132.75	-	S	--	--
							7/22/1986	131.25	-	S	--	--
							8/19/1986	130.90	-	S	--	--
							9/ 3/1986	131.08	-	S	--	--
							10/22/1986	131.15	-	S	--	--
							11/19/1986	132.75	U	S	--	--
							12/13/1986	133.85	-	S	--	--
							1/14/1987	134.85	-	S	--	--
							2/ 4/1987	135.55	-	S	--	--
							2/26/1987	135.90	-	S	--	--

09N/29E-36N02	461254	1190757	362.00	41.0	39.00	41.00	H	3/11/1986	26.94	-	\$ 09/06/1986	3.50	592
								9/ 4/1986	23.69	-	\$ --	--	--
								3/ 2/1987	26.82	U	\$ --	--	--
								3/ 2/1987	26.79	U	\$ --	--	--
09N/30E-02R01	461712	1190041	515.00	211.0	177.50	211.00	H	2/21/1986	114.20	-	T 09/09/1986	4.60	573
								9/ 9/1986	119.19	-	\$ --	--	--
								3/ 3/1987	114.07	U	\$ --	--	--
09N/30E-06L01	461727	1190630	432.00	93.0	93.00	93.00	H	3/ 3/1986	70.25	-	\$ --	--	--
								9/11/1986	73.50	-	\$ --	--	--
								2/27/1987	70.48	U	\$ --	--	--
								2/27/1987	70.45	U	\$ --	--	--
09N/30E-06Q01D1	461711	1190608	435.00	154.0	149.00	154.00	H	2/21/1986	80.35	-	S 09/11/1986	15.00	750
								9/11/1986	83.04	-	\$ --	--	--
09N/30E-08A02	461704	1190429	543.00	600.0	222.00	600.00	U	2/21/1986	174.40	-	S --	--	--
								9/ 9/1986	176.21	-	S --	--	--
09N/30E-08B02D1	461703	1190457	475.00	135.0			H1	2/21/1986	112.20	-	T 09/09/1986	12.00	660
								9/ 9/1986	118.67	U	\$ --	--	--
								9/ 9/1986	115.03	U	\$ --	--	--
								9/ 9/1986	119.57	U	\$ --	--	--
09N/30E-13E02	461556	1190028	443.00	87.0	87.00	87.00	U	2/24/1986	59.65	U	S --	--	--
09N/30E-14A02	461612	1190044	495.00	157.5	147.00	157.50	H	2/24/1986	59.70	U	S --	--	--
								2/24/1986	112.78	-	S 09/10/1986	4.40	585
09N/30E-17K01D1	461545	1190501	428.00	105.0	97.00	105.00	A	2/25/1986	80.95	-	S --	--	--
								9/11/1986	118.21	-	S --	--	--
09N/30E-17Q01	461532	1190458	425.00	109.5	99.50	109.50	I	2/22/1986	83.80	-	T 09/11/1986	13.00	730
								9/11/1986	85.17	-	S --	--	--
09N/30E-20L01	461458	1190505	430.00	105.0	98.00	105.00	I	2/22/1987	80.96	-	S --	--	--
								3/ 6/1987	113.72	-	S --	--	--
09N/30E-22K01	461439	1190216	420.00	138.0	133.00	133.00	H	2/24/1986	123.20	U	T 09/10/1986	5.00	601
								4/17/1986	122.30	P	T --	--	--
								5/15/1986	122.00	-	T --	--	--

Local well number	Latitude	Longitude	Altitude of LSD (feet)	Well depth (feet)	Opening top (feet)	Bottom water level (feet)	Use of water measured	Date	Water level (feet)	Status	Method	Sampling date	Total nitrate-plus-nitrite as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
09N/30E-22R01	461433	1190210	422.00	139.0	139.00	139.00	H	6/18/1986	125.30	P	T	..	..	..
								7/15/1986	124.30	P	T	..	..	..
								8/20/1986	124.50	U	T	..	..	..
								8/20/1986	124.30	U	T	..	..	..
								9/10/1986	125.13	-	S	..	..	..
								10/21/1986	124.10	U	T	..	..	..
								10/21/1986	124.00	U	T	..	..	..
								11/19/1986	123.60	-	T	..	..	..
								12/ 9/1986	123.20	P	T	..	..	..
								1/13/1987	122.80	-	T	..	..	..
								2/ 3/1987	122.40	U	T	..	..	..
								2/ 3/1987	122.50	U	T	..	..	..
								2/27/1987	122.63	-	S	..	..	..
								2/22/1986	118.80	-	T	..	..	..
								9/ 8/1986	124.24	U	S	..	..	..
								9/ 8/1986	124.20	U	S	..	..	..
								9/ 8/1986	121.99	U	S	..	..	..
								9/ 8/1986	124.20	U	S	..	..	..
								9/ 8/1986	122.00	U	S	..	..	..
								2/24/1986	123.00	-	T	..	..	..
								2/27/1987	132.80	-	T	..	..	..
								2/24/1986	102.20	P	S	09/10/1986	6.50	635
								9/10/1986	104.86	R	S	..	..	..
								2/27/1987	102.65	-	S	..	..	..
								2/24/1986	78.49	-	S	..	..	..
								9/26/1986	80.30	-	T	..	..	..
								2/27/1987	78.81	U	S	..	..	..
								3/ 5/1987	78.70	R	S	..	..	..
								3/ 5/1987	78.69	R	S	..	..	..
								3/ 5/1987	78.68	R	S	..	..	..
								2/24/1986	79.91	-	S	09/26/1986	12.00	779
								9/26/1986	81.30	-	S	..	..	..

09N/30E-27H01	461407	1190216	415.00	93.0	88.00	93.00	H	2/24/1986	77.70	-	T	--
09N/30E-27H02	461407	1190218	420.00	119.0	119.00	119.00	H	2/27/1987	78.20	-	T	--
09N/30E-27L01	461352	1190242	420.00	121.0	116.00	121.00	U	2/27/1986	84.90	-	S	--
09N/30E-27P01	461347	1190244	422.00	135.0	125.00	135.00	H	9/26/1986	86.37	-	S	--
09N/30E-28H01	461408	1190327	420.00	97.0	92.00	97.00	U	2/27/1986	72.30	-	S	--
09N/30E-34D01	461335	1190311	418.00	100.0	99.00	100.00	H	2/25/1986	76.80	P	S	--
09N/31E-07Q02	461620	1185838	570.00	400.0	173.00	400.00	H	9/ 8/1986	77.99	-	S	--
09N/31E-07q03	461620	1185843	572.00	425.0	196.00	425.00	H	2/25/1986	76.96	-	S	--
09N/31E-14G01	461546	1185349	618.00	355.0	131.00	355.00	H	3/ 2/1987	72.52	-	S	--
09N/31E-19G01	461500	1185848	500.00	558.0	158.00	558.00	H	2/25/1986	247.35	P	S	--
09N/31E-20C01	461513	1185746	542.00	500.0	133.00	500.00	H	9/24/1986	253.50	P	S	--
09N/31E-23A02	461516	1185321	500.00	320.0	162.00	320.00	I	3/ 5/1986	269.54	U	S	--
10N/27E-11L01	462149	1192400	440.00	62.0	57.00	62.00	H1	3/ 4/1987	275.81	U	S	--
								3/ 1/1986	255.60	P	S	--
								2/25/1986	134.90	P	S	--
								9/24/1986	165.05	U	S	--
								3/ 5/1987	181.50	U	T	--
								3/ 4/1987	183.80	U	T	--
								3/ 4/1987	181.30	U	T	--
								3/ 4/1987	163.00	P	S	--
								9/24/1986	182.26	-	S	--
								3/ 4/1987	160.95	U	S	--
								3/ 4/1987	161.85	U	S	--
								3/ 4/1987	161.81	U	S	--
								3/ 4/1987	161.77	U	S	--
								3/ 4/1987	161.74	U	S	--
								3/ 5/1986	143.15	-	S	--
								9/24/1986	144.75	-	S	--
								3/ 4/1987	144.50	-	S	--
								5/15/1986	44.05	P	S	--
								6/17/1986	44.10	P	S	--
								7/15/1986	40.65	-	S	--

Local well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Open- ing bottom (feet)	Water level measured	Date of measured	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
10N/27E-11M02	462149	1192403	435.00	147.5	58.00	147.50	H	8/18/1986	40.70	-	S	--	--	--
								9/16/1986	41.18	-	S	--	--	--
								10/21/1986	42.42	-	S	--	--	--
								11/18/1986	43.81	-	S	--	--	--
								12/10/1986	44.60	-	T	--	--	--
								1/13/1987	47.60	P	S	--	--	--
								2/ 3/1987	46.83	-	S	--	--	--
								3/ 2/1987	45.18	-	S	--	--	--
								3/13/1986	34.69	-	S	09/16/1986	3.50	738
								4/17/1986	36.99	-	S	--	--	--
								5/15/1986	59.54	P	S	--	--	--
								6/17/1986	39.64	P	S	--	--	--
								7/15/1986	39.94	-	S	--	--	--
								9/16/1986	37.83	-	S	--	--	--
								11/18/1986	40.32	-	S	--	--	--
								3/ 2/1987	35.66	-	S	--	--	--
								2/28/1986	9.24	-	S	--	--	--
								9/10/1986	7.11	-	S	--	--	--
								3/ 3/1987	10.01	-	S	--	--	--
								3/13/1986	21.20	-	S	09/09/1986	3.30	458
								9/ 9/1986	20.59	R	S	--	--	--
								9/ 9/1986	20.50	R	S	--	--	--
								9/ 9/1986	20.31	R	S	--	--	--
								9/ 9/1986	20.26	R	S	--	--	--
								3/ 2/1987	23.31	-	S	--	--	--
								2/27/1986	41.30	-	S	--	--	--
								3/ 4/1987	41.87	-	S	--	--	--
								2/28/1986	39.36	-	S	09/09/1986	3.20	409
								9/ 9/1986	32.63	-	S	--	--	--
								3/ 2/1987	39.92	-	S	--	--	--
								2/26/1986	1.73	-	S	09/16/1986	< 0.1	611
								4/16/1986	5.12	-	S	--	--	--
10N/27E-14L02	462058	1192357	432.00	60.0	55.00	60.00	H1							
10N/27E-14P02	462053	1192350	436.00	59.0	54.00	59.00	H							
10N/27E-23L02	462009	1192354	415.00	85.0	32.00	85.00	H							



Local well number	Latitude	Altitude of LSD (feet)	Well depth (feet)	Open-ing top (feet)	Use of bottom water (feet)	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate plus-nitrite as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
10N/28E-12:01	462210	1191508	495.00	196.0	188.00	196.00 H	2/25/1986	138.33	-	S 09/27/1986	< 0.1	429
							4/16/1986	138.20	-	S 12/10/1986	< 0.1	--
							5/14/1986	140.20	-	S --	--	--
							6/18/1986	138.00	-	S --	--	--
							7/17/1986	114.00	U	S --	--	--
							7/17/1986	112.60	P	T --	--	--
							8/22/1986	138.90	U	S --	--	--
							8/22/1986	138.80	U	S --	--	--
							9/27/1986	136.70	-	S --	--	--
							10/14/1986	133.46	U	S --	--	--
							10/24/1986	133.26	U	S --	--	--
							11/21/1986	134.70	U	S --	--	--
							11/21/1986	135.10	U	S --	--	--
							12/10/1986	137.00	U	S --	--	--
							1/14/1987	93.85	U	S --	--	--
							1/14/1987	93.80	U	S --	--	--
							3/ 4/1987	137.41	-	S --	--	--
							5/ 8/1987	135.20	U	T --	--	--
							7/ 1/1987	137.00	U	S --	--	--
							7/ 1/1987	137.15	U	S --	--	--
							2/26/1986	114.45	-	S --	--	--
							4/16/1986	116.20	-	S --	--	--
							5/14/1986	118.39	-	S --	--	--
							6/18/1986	117.10	U	S --	--	--
							6/18/1986	116.93	U	S --	--	--
							7/17/1986	116.40	U	S --	--	--
							7/17/1986	115.10	U	S --	--	--
							8/22/1986	119.20	U	S --	--	--
							8/22/1986	118.80	U	S --	--	--
							9/27/1986	113.10	-	S --	--	--
							10/24/1986	120.62	U	S --	--	--
							10/24/1986	120.37	U	S --	--	--



Local well number	Latitude	Longitude	Altitude of LSD (feet)	Well depth (feet)	Opening top (feet)	Opening bottom (feet)	Water level measured (feet)	Date	Water level (feet)	Status	Method	Sampling date	Total nitrate plus-nitrite as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
10N/28E-20N03	461945	1192035	390.00	26.0	26.00	26.00	H1	5/13/1986	8.87	P	S	-	-	-
10N/28E-20N04	461945	1192035	390.00	32.0			H	6/18/1986	9.87	-	S	-	-	-
								7/21/1986	11.22	-	S	-	-	-
								8/19/1986	10.77	-	S	-	-	-
								9/17/1986	10.32	-	S	-	-	-
								10/22/1986	8.80	-	S	-	-	-
								11/19/1986	7.67	-	S	-	-	-
								12/15/1986	7.17	-	S	-	-	-
								1/14/1987	6.95	-	S	-	-	-
								2/ 4/1987	7.12	-	S	-	-	-
								2/25/1987	7.42	-	S	-	-	-
								-	-	-	-	09/03/1986	4.10	1020
10N/28E-23E01	462025	1191653	398.00	50.0	50.00	50.00	I	9/ 3/1986	8.33	U	S	-	-	-
10N/28E-23E02	462025	1191647	401.00				U	2/23/1987	8.08	-	S	-	-	-
								3/12/1986	49.12	-	S	-	-	-
								4/21/1986	49.95	U	S	-	-	-
								4/21/1986	50.00	U	S	-	-	-
								5/13/1986	51.90	U	S	-	-	-
								6/18/1986	44.80	U	S	-	-	-
								7/21/1986	42.00	U	S	-	-	-
								8/19/1986	41.55	-	S	-	-	-
								9/17/1986	42.78	-	S	-	-	-
								10/22/1986	43.80	-	S	-	-	-
								11/19/1986	44.25	-	S	-	-	-
								12/15/1986	44.59	U	S	-	-	-
								1/14/1987	45.70	-	S	-	-	-
								2/ 4/1987	45.90	-	S	-	-	-
								2/26/1987	46.91	-	S	-	-	-

10N/28E-25B01	461945	1191615	378.00	59.0	39.00	59.00	I	2/23/1986	25.88	-	S	--
								9/ 4/1986	17.99	-	S	--
								2/26/1987	23.95	-	S	--
								3/11/1986	7.31	-	S	--
								4/21/1986	18.45	P	S	--
								5/13/1986	18.45	P	S	--
								6/18/1986	11.55	-	S	--
								7/21/1986	12.65	-	S	--
								8/19/1986	12.90	-	S	--
								9/17/1986	11.42	-	S	--
								10/22/1986	9.85	-	S	--
								11/19/1986	9.15	-	S	--
								12/15/1986	8.70	-	S	--
								1/14/1987	8.55	-	S	--
								2/ 4/1987	8.55	-	S	--
								2/24/1987	6.15	-	S	--
								2/25/1986	9.62	-	S	09/03/1986
								9/ 3/1986	20.97	P	S	--
								2/24/1987	10.30	-	T	--
								2/25/1986	8.64	-	S	09/17/1986
								9/ 3/1986	12.12	-	S	--
								2/24/1987	8.66	-	S	--
								2/22/1986	10.04	-	S	09/03/1986
								9/ 3/1986	9.79	-	S	--
								2/25/1987	10.20	-	S	--
								2/28/1986	9.80	-	T	--
								9/ 4/1986	8.69	-	S	--
								2/24/1987	9.39	-	S	--
								2/23/1986	14.55	-	S	09/04/1986
								9/ 4/1986	11.31	-	S	--
								2/24/1987	14.50	-	S	--
								3/12/1986	20.00	-	S	09/04/1986
								9/ 4/1986	16.44	U	S	--
								9/ 4/1986	16.44	U	S	--
								9/ 4/1986	16.15	U	S	--
								9/ 3/1986	16.31	U	S	--
								9/24/1986	16.36	U	S	--
								2/24/1987	19.19	-	S	--
								2/23/1986	52.74	-	S	--
								9/ 3/1986	49.55	-	S	--
								3/ 4/1987	52.14	-	S	--
										-	09/04/1986	4.40
												569

Local well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	open- ing top (feet)	use water (feet)	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
10N/28E-35G02	461834	1191611	370.00	47.0	47.00	47.00	H	2/24/1986	12.99	S	--	--	--
10N/28E-35H09	461838	1191555	350.00	44.0	39.00	44.00	H	9/ 4/1986	10.07	S	--	--	--
10N/28E-35J02	461824	1191601	370.00	44.0	44.00	44.00	I	2/23/1986	12.87	S	--	--	--
10N/28E-35K04	461823	1191604	371.00	50.0	45.00	50.00	I	9/ 4/1986	16.84	S	09/04/1986	5.30	574
10N/28E-35K05	461817	1191609	360.00	39.0	39.00	39.00	ZI	2/24/1987	13.17	S	--	--	--
10N/28E-35K06	461818	1191610	355.00	20.0	19.00	20.00	U	3/12/1986	16.45	S	--	--	--
10N/28E-35N02	461809	1191647	360.00	33.0	20.00	25.00	I	9/ 4/1986	28.19	S	--	--	--
10N/28E-35N03	461805	1191644	363.00	25.0	20.00	25.00	I	2/23/1986	26.80	S	--	--	--
								2/24/1987	28.56	S	--	--	--
								2/23/1986	29.05	S	09/04/1986	8.80	742
								9/ 3/1986	27.89	S	--	--	--
								2/24/1987	29.56	S	--	--	--
								9/ 4/1986	17.47	S	--	--	--
								2/26/1987	19.04	S	--	--	--
								3/ 4/1987	19.08	S	--	--	--
								2/23/1986	14.19	S	--	--	--
								9/ 4/1986	11.00	I	--	--	--
								2/26/1987	12.80	I	--	--	--
								9/ 4/1986	13.40	I	--	--	--
								2/26/1987	12.70	I	--	--	--
								2/26/1987	13.80	I	--	--	--
								2/26/1987	14.00	I	--	--	--
								2/26/1987	14.10	I	--	--	--
								2/26/1987	14.20	I	--	--	--
								2/26/1987	14.20	I	--	--	--
											09/17/1986	21.00	1020



Local well number	Lat- itude	Long- itude	Altiti- tude of LSD (feet)	Well depth (feet)	open- ing top (feet)	use bottom (feet)	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
10N/29E-10Q02	462132	1190957	652.00	168.0	H	2/26/1986	99.50	P	S	09/27/1986	14.00	630	
10N/29E-12Q01	462134	1190718	630.00	126.0	126.00	H	9/27/1986	98.57	-	S	--	--	
							3/ 3/1987	97.77	-	S	--	--	
							2/28/1986	56.70	P	S	09/11/1986	8.50	
							9/11/1986	54.70	R	S	--	665	
							9/11/1986	53.55	R	S	--	--	
							3/ 3/1987	55.54	-	S	--	--	
							2/27/1986	10.45	-	S	09/27/1986	0.50	
							9/27/1986	6.28	U	S	--	--	
							3/ 3/1987	10.92	-	S	--	--	
							2/27/1986	106.40	-	S	09/27/1986	1.80	
							9/27/1986	107.79	-	S	--	--	
							3/ 3/1987	105.23	-	S	--	--	
							3/ 1/1986	64.20	P	S	09/10/1986	7.20	
							9/10/1986	62.11	-	S	--	--	
							3/ 3/1987	62.50	-	S	--	--	
							2/28/1986	51.35	-	S	09/11/1986	14.00	
							9/11/1986	23.08	-	S	--	785	
							3/ 3/1987	27.31	U	S	--	--	
							3/ 3/1987	26.35	U	S	--	--	
							3/ 3/1987	24.21	U	S	--	--	
							3/ 3/1987	24.60	U	S	--	--	
							3/ 3/1987	24.45	U	S	--	--	
							2/26/1986	143.40	P	T	--	--	
							9/10/1986	143.70	U	S	--	--	
							3/ 3/1987	145.01	-	S	--	--	
							2/28/1986	118.40	P	T	--	--	
							9/10/1986	112.50	U	T	--	--	
							9/10/1986	112.70	U	T	--	--	
							3/ 3/1987	114.90	U	T	--	--	
							3/ 3/1987	115.40	U	T	--	--	
10N/29E-16A02	462121	1191038	608.00	102.0	102.00	H							
10N/29E-16B01	462123	1191054	573.00	0.0	H								
10N/29E-16A01	462127	1191037	610.00	144.0	144.00	H							
10N/29E-19L01	462006	1191357	502.00	200.0	200.00	H							
10N/29E-24P01	461947	1190739	525.00	285.0	H								

10N/29E-25A01	461944	1190654	498.00	135.5	20.00	130.00	U	2/18/1986	30.79	-	S	--	--	--	--	--	--
10N/29E-25B01	461944	1190718	493.00	90.0	90.00	90.00	H	2/21/1986	35.05	-	S	09/11/1986	4.80	612	--	--	--
10N/29E-29L01	461913	1191241	520.00	218.0	210.00	218.00	H	2/28/1986	160.10	P	T	09/10/1986	23.00	840	--	--	--
10N/29E-33P01	461806	1191129	520.00	325.0	267.00	325.00	I	2/28/1986	164.20	P	S	09/11/1986	< 0.1	370	--	--	--
10N/29E-35D01	461850	1190917	450.00	139.0	119.00	139.00	I	3/ 1/1986	93.70	-	S	--	--	--	--	--	--
10N/30E-03J01	462238	1190159	640.00	230.0	70.00	230.00	H	9/11/1986	97.57	-	S	--	--	--	--	--	--
10N/30E-04N01	462227	1190403	590.00	121.0	81.00	121.00	H	3/ 4/1987	93.84	-	S	--	--	--	--	--	--
10N/30E-07J02	462144	1190542	548.00	28.5	24.50	28.50	I	3/ 1/1986	36.15	P	S	09/10/1986	11.00	670	--	--	--
10N/30E-09M01	462155	1190401	580.00	180.0	110.00	180.00	H	2/28/1987	34.22	-	S	--	--	--	--	--	--
10N/30E-11a01	462139	1190058	720.00	286.5	163.50	286.50	H	2/28/1986	53.70	P	S	09/10/1986	14.00	708	--	--	--
10N/30E-16P01D1	462041	1190347	653.00	111.0	101.00	107.00	H	9/10/1986	50.97	-	S	--	--	--	--	--	--
10N/30E-19E01	462013	1190632	493.00	395.0	N	111.00	111.00	9/11/1986	88.80	U	S	--	--	--	--	--	--
10N/30E-21N01	461945	1190408	611.00	366.0	211.70	366.00	H	2/28/1987	80.80	P	S	--	--	--	--	--	--
								4/16/1986	88.25	U	S	--	--	--	--	--	--
								3/ 4/1987	88.73	U	S	--	--	--	--	--	--
								3/ 3/1986	162.70	P	T	09/11/1986	1.20	443	--	--	--
								4/16/1986	208.00	-	T	--	--	--	--	--	--
								5/13/1986	269.00	-	--	--	--	--	--	--	--

Local well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Open- ing bottom (feet)	Use of water (feet)	Date measured	Water level (feet)	Status measured	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
10N/30E-33N04	461801	1190414	549.00	228.0	218.00	228.00	1	6/17/1986	192.60	U	T	..	..	..
								6/17/1986	187.60	U	T	..	..	..
								7/15/1986	268.00	U	T	..	..	..
								7/15/1986	268.50	U	T	..	..	..
								8/20/1986	256.00	U	S	..	..	..
								8/20/1986	256.10	U	S	..	..	..
								9/11/1986	176.06	R	S	..	..	..
								9/11/1986	174.45	R	S	..	..	..
								9/11/1986	172.38	R	S	..	..	..
								9/11/1986	170.72	R	S	..	..	..
								10/21/1986	158.60	U	S	..	..	..
								10/21/1986	165.20	U	S	..	..	..
								10/21/1986	164.20	U	S	..	..	..
								11/19/1986	166.00	U	S	..	..	..
								11/19/1986	165.56	U	S	..	..	..
								12/ 9/1986	178.20	U	S	..	..	..
								12/ 9/1986	179.00	U	S	..	..	..
								1/13/1987	260.13	U	S	..	..	..
								1/13/1987	255.58	U	S	..	..	..
								1/13/1987	258.00	U	S	..	..	..
								2/ 3/1987	250.20	U	S	..	..	..
								2/ 3/1987	252.20	U	S	..	..	..
								2/28/1987	228.16	R	S	..	..	..
								2/28/1987	216.99	R	S	..	..	..
								5/12/1987	215.80	U	S	..	..	..
								5/12/1987	216.38	U	S	..	..	..
								7/ 6/1987	199.90	R	S	..	..	..
								7/ 6/1987	195.00	R	S	..	..	..
								7/ 6/1987	191.90	R	S	..	..	..
								7/ 6/1987	187.65	R	S	..	..	..
								3/ 3/1986	186.35	U	S	09/11/1986	18.00	..
								4/16/1986	184.40	U	S	12/09/1986	16.00	..
													665	..



Local well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Use of water bottom (feet)	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
10N/31E-32M02	461815	1185803	518.00	400.0	186.00	280.00	H	3/ 4/1986	68.95	P	S	09/09/1986	1.30
					360.00	400.00		9/ 9/1986	171.20	R	T	--	--
								9/ 9/1986	168.60	R	T	--	--
								9/ 9/1986	166.50	R	T	--	--
								3/ 2/1987	69.01	U	S	--	--
								3/ 2/1987	70.05	U	S	--	--
								3/ 2/1987	75.02	R	S	--	--
								3/ 2/1987	73.53	R	S	--	--
								3/ 2/1987	72.49	R	S	--	--
								3/ 4/1986	68.50	-	S	--	--
								3/ 4/1987	68.75	-	S	--	--
10N/31E-32M03	461819	1185802	520.00	310.0	260.00	300.00	U	9/ 9/1986	115.41	-	S	09/09/1986	13.00
10N/31E-32N03	461811	1185801	520.00	295.0	262.00	295.00	U	3/ 4/1987	64.26	-	S	--	--
10N/31E-32P03	461810	1185758	530.00	360.0	230.00	250.00	U	3/ 4/1986	66.90	-	S	--	--
					250.00	360.00		10/ 1/1986	66.80	U	S	--	--
								10/ 1/1986	66.60	U	S	--	--
								3/ 3/1987	62.14	-	S	--	--
								3/ 4/1986	132.85	P	S	--	--
10N/31E-32P04	461802	1185743	592.00	320.0	31.00	320.00	H	3/ 2/1987	128.02	U	S	--	--
								3/ 2/1987	128.61	U	S	--	--
								3/ 1/1986	60.07	-	S	--	--
								4/16/1986	63.80	-	S	--	--
								5/15/1986	58.93	-	S	--	--
								6/18/1986	59.70	-	S	--	--
								7/18/1986	59.50	U	S	--	--
								8/21/1986	61.00	U	S	--	--
								9/ 8/1986	61.14	R	S	--	--
								10/22/1986	61.10	U	S	--	--
								10/22/1986	61.15	U	S	--	--
								11/20/1986	58.95	U	S	--	--



Local well number	Lat-itude	Long-i-tude	Alt-i-tude of LSD (feet)	Well depth (feet)	Open-ing top (feet)	Use of bottom water (feet)	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate-plus-nitrite as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
11N/29E-27D01	462457	1191021	870.00	45.0	35.00	45.00	S	9/ 5/1986	15.32	-	\$	--	--
								2/24/1987	19.15	-	\$	--	--
11N/29E-28R01	462414	1191040	795.00	87.0	87.00	87.00	U	2/27/1986	39.43	-	\$	--	--
								2/23/1987	39.82	-	\$	--	--
11N/29E-28R02	462414	1191040	795.00	87.0	87.00	87.00	H	9/ 5/1986	26.92	T	S	09/05/1986	14.00
								3/ 3/1987	28.41	T	\$	--	--
11N/29E-31N01	462321	1191415	851.00	746.0	726.00	746.00	H	9/ 5/1986	29.10	-	T	--	--
								2/27/1986	31.40	-	T	--	--
								3/ 3/1987	31.75	-	S	--	--
								3/ 3/1987	31.40	R	T	--	--
11N/29E-33G01	462351	1191054	742.00	47.0	40.00	47.00	U	2/28/1986	484.10	-	T	--	--
								9/27/1986	481.30	-	T	--	--
11N/29E-34D02	462359	1191028	760.00	78.0				3/ 4/1987	482.70	-	T	--	--
								2/26/1986	9.53	-	S	--	--
11N/29E-34J02	462339	1190920	692.00	211.0	211.00	211.00	H	9/ 5/1986	6.87	-	S	--	--
								3/ 3/1987	10.19	-	S	--	--
11N/29E-34P01	462315	1191014	695.00	150.0	0.99	0.99	H	2/26/1986	32.26	U	S	09/08/1986	1.10
								2/24/1987	32.43	-	S	--	--
								9/ 8/1986	24.90	-	S	--	--
								2/23/1987	17.00	-	S	--	--
11N/29E-34R02	462316	1190937	690.00	160.0	150.00	160.00	H	3/26/1986	17.30	-	S	09/08/1986	6.70
								9/ 8/1986	15.36	-	S	--	--
11N/30E-02R01	462747	1190040	595.00	124.0	124.00	124.00	I	2/23/1987	17.31	-	S	--	--
								--	--	-	09/04/1986	4.70	609

11N/30E-02R02	462747	1190041	594.00	114.0	104.00	114.00	I	2/28/1986	84.22	Z	S	--
								9/ 4/1986	84.80	Z	S	--
								2/25/1987	86.36	T	S	--
11N/30E-03E01	462814	1190212	798.00	113.0	4.00	113.00	U	2/27/1986	73.66	-	S	--
								9/ 4/1986	50.87	U	S	--
11N/30E-03I01	462754	1190233	765.00	105.0	45.00	105.00	H	2/27/1986	45.50	-	T	09/04/1986
								4/17/1986	46.40	P	T	--
								5/14/1986	40.30	-	T	--
								6/17/1986	36.60	U	T	--
								7/16/1986	36.40	P	T	--
								8/20/1986	36.10	P	T	--
								8/20/1986	35.50	R	T	--
								9/ 4/1986	35.30	R	T	--
								10/21/1986	37.60	P	T	--
								11/19/1986	40.00	P	S	--
								12/ 9/1986	41.60	P	T	--
								1/13/1987	43.30	P	T	--
								2/ 3/1987	44.40	P	T	--
								2/25/1987	45.30	-	T	--
								4/17/1986	34.10	P	T	--
								9/ 6/1986	32.27	-	S	--
								2/27/1987	36.82	R	S	--
								2/27/1987	36.55	R	S	--
								2/27/1987	36.13	R	S	--
								2/27/1987	34.94	R	S	--
								2/27/1987	34.85	R	S	--
								2/27/1987	34.58	R	S	--
								2/26/1986	10.76	-	S	--
								2/25/1987	10.88	-	S	--
								9/ 4/1986	9.29	-	S	--
								2/28/1986	161.30	-	S	--
								9/ 6/1986	40.98	U	S	--
								2/24/1987	55.09	-	S	--
								2/28/1986	161.30	-	S	--
								9/ 4/1986	166.08	-	S	--
								2/25/1987	163.59	-	S	--
								3/ 1/1986	76.20	-	S	09/05/1986
								9/ 4/1986	78.67	U	S	--
11N/30E-05N02	462737	1190524	708.00	57.0	57.00	57.00	U	--	--	--	--	--
								2/26/1986	8.45	-	S	--
								3/26/1987	9.70	-	S	--
								2/27/1986	56.02	-	S	09/06/1986
								9/ 6/1986	40.98	U	S	--
								2/24/1987	55.09	-	S	--
								2/28/1986	161.30	-	S	--
								9/ 4/1986	166.08	-	S	--
								2/25/1987	163.59	-	S	--
								3/ 1/1986	76.20	-	S	09/05/1986
								9/ 4/1986	78.67	U	S	--
11N/30E-11A01	462727	1190029	665.00	290.0	20.00	290.00	H1	--	--	--	--	--
								9/ 4/1986	166.08	-	S	--
								2/25/1987	163.59	-	S	--
								3/ 1/1986	76.20	-	S	09/05/1986
								9/ 4/1986	78.67	U	S	--
11N/30E-14K01	462615	1190054	575.00	265.0	225.00	265.00	H	--	--	--	--	--
								9/ 4/1986	166.08	-	S	--
								2/25/1987	163.59	-	S	--
								3/ 1/1986	76.20	-	S	09/05/1986
								9/ 4/1986	78.67	U	S	--

Local well number	Latitude	Longitude	Altitude of LSD (feet)	Well depth (feet)	Open ing top (feet)	Use of bottom water (feet)	Date measured	Water level (feet)	Status	Method	Sampling date	Total nitrate plus-nitrite as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
11N/30E-15B01	462643	1190202	733.00	163.0	163.00	163.00	HS	2/25/1987	77.49	-	S 09/05/1986	--	--
11N/30E-15C01	462642	1190225	690.00	94.0	94.00	94.00	H	2/26/1986	97.11	-	S 09/05/1986	2.10	580
11N/30E-16C01	462642	1190343	717.00	320.0			HS	9/ 5/1986	92.73	-	S --	--	--
11N/30E-17B01	462643	1190440	675.00	100.0	26.00	100.00	H	2/23/1987	96.75	-	S --	--	--
11N/30E-17B02	462637	1190435	655.00	30.0	21.00	26.00	H	2/26/1986	59.63	U	S --	--	--
11N/30E-29C01	462450	1190501	818.00	220.0			H	2/26/1986	59.67	U	S --	--	--
11N/30E-34H01	462345	1190151	602.00	105.0	20.00	105.00	H	9/ 3/1986	55.40	R	T --	--	--
11N/30E-35J01	462341	1190029	720.00	487.0	46.00	487.00	U	2/23/1987	59.26	-	S --	--	--
								9/ 9/1986	75.41	-	S 09/05/1986	16.00	--
								2/20/1986	16.50	-	S 09/05/1986	20.00	1420
								9/ 9/1986	15.00	R	T --	--	--
								2/23/1987	16.11	-	S --	--	--
								2/26/1986	14.53	-	S --	--	--
								9/ 9/1986	13.65	-	S --	--	--
								2/24/1987	13.73	-	S --	--	--
								2/26/1986	53.34	U	S 09/08/1986	1.80	500
								2/26/1986	53.30	U	S --	--	--
								9/11/1986	43.72	-	S --	--	--
								2/24/1987	48.43	R	S --	--	--
								2/24/1987	48.40	R	S --	--	--
								2/24/1987	48.39	R	S --	--	--
								2/24/1987	48.12	R	S --	--	--
								3/27/1986	32.90	-	S 09/11/1986	19.00	1140
								9/11/1986	31.73	-	S --	--	--
								3/ 3/1987	32.64	-	T --	--	--
								4/16/1986	102.30	-	T --	--	--
								5/13/1986	101.60	-	T --	--	--
								6/17/1986	99.55	-	S --	--	--
								7/15/1986	103.55	U	S --	--	--
								7/15/1986	103.15	U	S --	--	--
								8/20/1986	96.95	U	S --	--	--



Local Well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top bottom (feet)	Use of water measured	Date water level (feet)	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
12N/28E-23H0101	463100	1191535	390.00	413.0	242.00	413.00	H	9/26/1986	177.85	-	S	--	--
								3/ 3/1987	177.29	R	S	--	--
								3/ 3/1987	177.24	R	S	--	--
								3/ 3/1987	177.14	R	S	--	--
								3/ 3/1987	177.00	R	S	--	--
								2/24/1986	15.49	-	S	09/12/1986	< 0.1
								9/12/1986	22.30	R	T	--	--
								3/ 3/1987	34.30	R	T	--	--
								3/ 3/1987	27.90	R	T	--	--
								3/ 3/1987	23.80	R	T	--	--
								3/ 3/1987	21.80	R	T	--	--
								2/24/1986	146.33	-	S	09/09/1986	15.00
								4/17/1986	142.00	-	T	--	--
								5/14/1986	141.10	-	T	--	--
								6/17/1986	146.80	-	T	--	--
								7/16/1986	155.00	P	T	--	--
								8/21/1986	143.70	-	T	--	--
								9/10/1986	143.77	U	S	--	--
								10/22/1986	143.60	U	T	--	--
								10/22/1986	143.70	U	T	--	--
								11/20/1986	143.10	U	T	--	--
								11/20/1986	143.20	U	T	--	--
								2/ 4/1987	144.10	-	T	--	--
								2/27/1987	149.03	R	S	--	--
								2/27/1987	147.68	R	S	--	--
								2/27/1987	145.76	R	S	--	--
								2/27/1987	144.52	R	S	--	--
								2/27/1987	144.42	R	S	--	--
								5/ 8/1987	144.70	-	T	--	--
								7/ 1/1987	133.40	-	T	--	--
								2/24/1986	173.06	-	S	09/24/1986	< 0.1
								9/26/1986	175.34	U	S	--	--



Local well number	Lat- titude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	open- ing top (feet)	use bottom (feet)	Date	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	specific conductance (microsiemens per centimeter at 25 degrees C)
12N/30E-04L01	463308	1190343	878.00	250.0	60.90	250.00	H	3/26/1986	100.00	P	S 09/10/1986	7.60	1090
								9/10/1986	89.29	R	S	--	--
								9/10/1986	87.68	R	S	--	--
								9/10/1986	86.78	R	S	--	--
								9/10/1986	86.15	R	S	--	--
								9/10/1986	84.62	R	S	--	--
								9/10/1986	84.01	R	S	--	--
								9/26/1986	80.75	-	S	--	--
								2/26/1987	93.41	R	S	--	--
								2/26/1987	92.60	R	S	--	--
								2/26/1987	91.79	R	S	--	--
								2/26/1987	90.81	R	S	--	--
								2/26/1987	89.56	R	S	--	--
								2/26/1987	88.64	R	S	--	--
								2/24/1986	115.50	-	T 09/26/1986	8.80	750
								9/26/1986	115.30	R	T	--	--
								2/27/1987	116.20	R	T	--	--
								3/27/1986	162.70	-	S	--	--
								2/27/1987	162.88	-	S	--	--
								3/27/1986	103.57	-	S	--	--
								2/28/1987	104.16	-	S	--	--
								2/25/1986	41.21	-	S 09/11/1986	14.00	960
								9/11/1986	41.26	-	S	--	--
								2/25/1987	41.52	-	S	--	--
								2/25/1986	40.72	-	S	--	--
								9/11/1986	24.05	-	S	--	--
								2/26/1987	42.94	Z	S	--	--

12N/30E-21G01	463044	1190330	809.00	211.0	17.00	211.00	H	2/25/1986	29.95	-	S	09/11/1986	11.00	1090
								9/11/1986	21.20	R	T	--	--	--
								2/25/1987	31.89	U	S	--	--	--
								2/25/1987	31.98	U	S	--	--	--
								2/25/1987	32.01	U	S	--	--	--
								2/25/1986	41.40	-	T	--	--	--
								9/24/1986	33.90	-	T	--	--	--
								2/25/1987	41.60	-	T	--	--	--
								2/25/1986	106.62	-	S	09/26/1986	3.60	595
								9/26/1986	106.00	R	T	--	--	--
								2/27/1987	106.22	-	S	--	--	--
								2/25/1986	58.52	R	S	09/11/1986	14.00	1140
								2/25/1986	58.40	R	S	--	--	--
								2/25/1986	58.31	R	S	--	--	--
								2/25/1986	58.23	R	S	--	--	--
								9/11/1986	51.21	-	S	--	--	--
								2/27/1987	58.70	U	T	--	--	--
								2/27/1987	67.70	R	T	--	--	--
								2/27/1987	64.40	R	T	--	--	--
								2/27/1987	62.20	R	T	--	--	--
								2/27/1987	61.30	R	T	--	--	--
								2/27/1987	60.40	R	T	--	--	--
								2/27/1987	60.00	R	T	--	--	--
								2/27/1987	59.40	R	T	--	--	--
								2/27/1987	59.30	R	T	--	--	--
								2/27/1987	59.10	R	T	--	--	--
								2/27/1987	59.00	R	T	--	--	--
								2/27/1987	58.70	R	T	--	--	--
								3/27/1986	67.50	P	S	09/04/1986	17.00	970
								9/ 4/1986	53.30	R	T	--	--	--
								2/27/1987	65.36	U	S	--	--	--
								5/13/1986	113.03	-	S	09/03/1986	32.00	1010
								4/17/1986	113.50	-	S	--	--	--
								5/13/1986	114.20	U	S	--	--	--
								5/13/1986	113.60	U	S	--	--	--
								6/17/1986	130.00	P	S	--	--	--
								6/17/1986	120.30	U	S	--	--	--
								7/16/1986	133.50	U	S	--	--	--
								7/16/1986	143.80	P	S	--	--	--
								8/21/1986	121.70	U	S	--	--	--
								8/21/1986	128.80	P	S	--	--	--
								10/22/1986	112.30	-	T	--	--	--

Local well number	Latitude	Longitude	Altitude of LSD (feet)	Well depth (feet)	Open-ing top (feet)	Use bottom (feet)	Date water measured	Water level (feet)	Status	Method	Sampling date	Total nitrate-plus-nitrite as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
13N/29E-03C02	463855	1191006	945.00	608.0	345.00	608.00	H	2/21/1986	111.50	-	T	111.50	448
13N/29E-08H01	463747	1191202	995.00	453.0	403.00	453.00	R1	3/ 2/1987	112.00	U	T	112.30	448
13N/29E-22P01	463529	1190954	629.00	13.0	4.50	13.00	U	2/21/1986	384.61	-	S	390.30	448
13N/29E-27C01	463523	1191011	621.00	279.0	140.00	160.00	U	2/28/1987	385.16	-	S	390.30	448
13N/29E-27D01	463518	1191019	605.00	75.0	25.00	75.00	H	2/20/1986	19.18	-	S	21.78	448
13N/29E-28A01	463528	1191038	585.00	25.0	25.00	25.00	H	2/20/1986	20.92	U	S	21.38	448
13N/29E-32G01	463411	1191215	625.00	264.5	168.50	264.50	H	2/27/1987	19.06	-	S	21.17	448
								9/ 3/1986	104.13	-	S	105.21	521
								9/ 3/1986	104.13	-	S	105.19	521
								9/ 3/1986	104.13	-	S	105.16	521
								9/ 3/1986	104.13	-	S	105.09	521

13N/29E-34N01	463345	1191024	718.00	182.0	124.25	182.00	H	2/22/1986	152.70	-	S	--	--	
								9/24/1986	151.70	-	S	--	--	
								2/27/1987	153.37	R	S	--	--	
								2/27/1987	152.40	R	S	--	--	
13N/29E-35N01	463347	1190826	815.00	330.0	191.00	330.00	H	2/21/1986	192.70	R	T	09/09/1986	0.20	
								9/ 9/1986	190.00	R	S	--	--	
								9/ 9/1986	188.54	R	S	--	--	
								2/27/1987	214.50	R	T	--	--	
								2/27/1987	185.50	R	T	--	--	
13N/29E-36A01	463431	1190652	785.00	94.0				--	--	-	09/09/1986	28.00	1070	
13N/29E-36A01D1	463435	1190654	785.00	340.0			H	2/18/1986	40.09	R	S	--	--	
								2/18/1986	39.69	R	S	--	--	
								2/18/1986	39.44	R	S	--	--	
								2/18/1986	40.03	R	-	--	--	
								2/18/1986	39.79	R	S	--	--	
								9/ 9/1986	33.52	-	S	--	--	
								2/28/1987	40.88	R	S	--	--	
								2/28/1987	40.79	R	S	--	--	
								3/ 5/1987	39.59	-	S	--	--	
13N/30E-10R01	463718	1190137	940.00	137.0	47.00	137.00	H	2/18/1986	70.40	-	T	09/12/1986	8.90	769
								9/ 9/1986	60.00	-	T	--	--	
								2/28/1987	71.50	-	T	--	--	
								2/22/1986	240.80	-	T	09/09/1986	0.70	238
								9/ 9/1986	242.50	-	T	--	--	
								2/28/1987	244.50	-	T	--	--	
								4/17/1986	125.40	-	T	09/09/1986	16.00	760
13N/30E-13M01D1	463641	1190010	956.00	196.0			H	9/ 9/1986	94.00	-	T	--	--	
								3/ 5/1987	123.30	-	T	--	--	
								4/17/1986	46.60	R	T	09/09/1986	4.60	850
								5/13/1986	44.52	-	S	12/10/1986	10.00	
								6/17/1986	40.20	-	T	--	--	
								7/16/1986	36.90	-	S	--	--	
								8/20/1986	35.80	-	T	--	--	
								9/ 9/1986	34.13	-	S	--	--	
								10/22/1986	35.40	U	S	--	--	
								10/22/1986	35.20	U	T	--	--	
								11/20/1986	37.30	-	T	--	--	
								12/10/1986	40.40	U	T	--	--	
								12/10/1986	40.30	U	T	--	--	
								1/14/1987	43.90	-	T	--	--	
								2/ 4/1987	46.30	U	T	--	--	

Local well number	Lat- itude	Long- itude	Alt-i- tude of LSD (feet)	Well depth (feet)	Open- ing top (feet)	Use bottom (feet)	Date water measured	Water level (feet)	Status	Method	Sampling date	Total nitrate- plus-nitrite as N (milli- grams per liter)	Specific conductance (microsiemens per centimeter at 25 degrees C)
13N/30E-22N01	463529	1190236	910.00	154.0	60.00	154.00	H	2/19/1986	34.64	U	S	09/09/1986	12.00
13N/30E-26G01	463505	1190040	674.00	36.8	U			2/28/1987	4.95	-	S	09/09/1986	8.60
13N/30E-27J01	463458	1190140	875.00	56.0	56.00	56.00	H	2/19/1986	8.11	-	S	09/09/1986	8.60
13N/30E-31D01	463433	1190635	755.00	50.0	43.00	50.00	U	2/21/1986	3.43	-	S		--
14N/29E-05A01	464412	1191157	1100.00	305.0	165.00	305.00	H	3/27/1986	245.80	-	S	09/24/1986	5.00
14N/29E-05M01	464342	1191258	1212.00	550.0	440.00	550.00	H	9/24/1986	262.60	-	S		--
14N/29E-09B02	464316	1191052	1260.00	725.0				3/ 2/1987	256.87	R	S		--
								3/ 2/1987	252.43	R	S		--
								3/ 2/1987	251.73	R	S		--
								3/ 4/1987	244.19	-	S		--
								3/27/1986	278.25	U	S	09/25/1986	9.50
								3/27/1986	278.30	U	S		--
								9/24/1986	273.28	-	S	12/10/1986	3.40
								2/18/1986	353.31	U	S		--
								2/18/1986	354.27	U	S		--
								2/18/1986	353.79	U	S		--
								4/17/1986	356.50	U	S		--
								5/14/1986	357.50	-	S		--
								6/17/1986	370.50	P	S		--

9/24/1986	352.05	-	S
11/20/1986	362.65	U	S
11/20/1986	365.85	U	S
12/10/1986	350.40	-	S
1/14/1987	351.10	U	S
1/14/1987	351.05	U	S
2/ 4/1987	351.85	-	S
3/ 2/1987	352.29	-	S
5/12/1987	354.80	U	S
5/12/1987	354.85	U	S
7/ 1/1987	361.43	P	S
7/ 1/1987	360.50	P	S
2/26/1986	120.32	-	S
9/24/1986	119.75	U	S
9/24/1986	119.72	U	S
3/ 4/1987	118.53	R	S
2/21/1986	10.75	U	S
2/21/1986	10.79	U	S
9/24/1986	9.33	-	S
3/ 4/1987	10.75	-	S
2/18/1986	61.60	R	S
2/18/1986	61.57	R	S
2/18/1986	61.52	R	S
9/24/1986	61.66	-	S
3/ 2/1987	61.47	-	S
2/21/1986	55.30	U	T
2/22/1986	55.10	U	T
9/ 3/1986	54.13	R	S
9/ 3/1986	54.04	R	S
3/ 2/1987	54.40	-	T
2/22/1986	21.93	-	S
9/24/1986	20.10	R	T
3/ 2/1987	21.53	R	S

Table 2.--Records of surface-water sites with daily discharges or stages

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12435810 S.C.B.I.D. EL85XX WASTEWAY NEAR MESA, WA

LOCATION.--Lat  $46^{\circ}35'41''$ , long  $118^{\circ}59'27''$ , in SW $\frac{1}{4}$  SE $\frac{1}{4}$  sec.24, T.13 N., R.30 E., Franklin County, Hydrologic Unit 17020016, 2,000 ft above Esquatzel Coulee, 1.5 mi north of Mesa.

GAGE.--Water-stage recorder. Elevation of gage is 690 ft, from topographic map.

REMARKS.--Estimated daily discharges: Feb. 21 to May 14, 1987. Records fair except those for Nov. 18, 1986 to May 15, 1987, which are poor. Most flow is return and waste from water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs.

EXTREMES.--Maximum discharge, 34 ft<sup>3</sup>/s Sept. 25, 1986; no flow Dec. 31, 1986 to Jan. 1, 1987, Jan. 5, 6, 1987.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986				1987								
DAY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
1	---	20	22	26	2.0	0.14	0.00	0.14	0.03	0.03	0.03	27	11
2	---	17	23	25	1.9	.13	.01	.11	.03	.03	.03	26	11
3	---	15	24	24	1.9	.13	.01	.09	.03	.03	.03	27	13
4	---	16	24	24	1.9	.13	.01	.07	.03	.03	.03	26	15
5	---	20	23	24	1.9	.14	.00	.06	.03	.03	.03	24	17
6	---	22	23	23	1.9	.13	.00	.06	.03	.03	.03	21	17
7	---	22	23	22	1.9	.11	.01	.05	.03	.03	.03	19	19
8	---	21	23	22	1.9	.10	.01	.04	.03	.03	.03	18	21
9	27	20	24	21	1.9	.09	.01	.04	.03	.03	.03	17	21
10	25	19	23	20	1.9	.09	.01	.04	.03	.03	.03	17	21
11	22	20	22	19	2.0	.09	.01	.04	.03	.03	.03	17	20
12	23	23	22	17	2.0	.09	.01	.04	.03	.03	.03	17	18
13	24	26	22	15	2.0	.09	.02	.05	.03	.03	.03	17	16
14	24	28	22	15	2.0	.08	.03	.05	.03	.03	.03	17	14
15	26	29	23	15	1.7	.08	.03	.05	.03	.03	8.2	18	14
16	25	29	24	17	1.1	.07	.03	.04	.03	.03	17	19	13
17	22	29	24	18	.30	.07	.03	.03	.03	.03	18	19	12
18	20	29	24	18	.31	.07	.03	.03	.03	.03	20	19	12
19	20	30	24	18	.22	.08	.03	.03	.03	.03	21	19	12
20	21	31	25	16	.23	.08	.03	.03	.03	.03	21	18	14
21	20	30	27	15	.22	.09	.03	.03	.03	.03	20	16	15
22	18	29	28	14	.22	.09	.03	.03	.03	.03	19	14	15
23	18	29	29	13	.11	.09	.03	.03	.03	.03	18	15	14
24	18	27	30	10	.13	.10	.03	.03	.03	.03	18	16	---
25	19	26	31	7.6	.12	.10	.04	.03	.03	.03	20	16	---
26	20	27	30	5.6	.12	.10	.08	.03	.03	.03	24	15	---
27	21	27	28	4.4	.14	.10	.10	.03	.03	.03	27	14	---
28	22	25	27	3.0	.14	.09	.10	.03	.03	.03	28	14	---
29	24	23	26	2.3	.14	.02	.10	---	.03	.03	28	12	---
30	24	22	26	2.2	.14	.00	.09	---	.03	.03	28	11	---
31	23	22	---	2.1	---	.00	.11	---	.03	---	28	---	---
TOTAL	---	753	746	478.2	32.44	2.77	1.06	1.33	.93	.90	363.62	545	---
MEAN	---	24.3	24.9	15.4	1.08	.09	.03	.05	.03	.03	11.7	18.2	---
MAX	---	31	31	26	2.0	.14	.11	.14	.03	.03	28	27	---
MIN	---	15	22	2.1	.11	.00	.00	.03	.03	.03	.03	11	---
AC-FT	---	1,490	1,488	949	64	5.5	2.1	2.6	1.8	1.8	721	1,080	---

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12435840. S.C.B.I.D. EL85JJ LATERAL AT HEAD NEAR MESA, WA.

LOCATION.--Lat  $46^{\circ}38'04''$ , long  $118^{\circ}59'21''$ , in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.12, T.13 N., R.30 E., Franklin County, Hydrologic Unit 17020016, 50 ft downstream from the headgate, 1.5 mi northeast of Mesa.

GAGE.--Staff gage. Elevation of gage is 990 ft, from topographic map.

REMARKS.--Discharge for days with no record not estimated. Available records fair. All flow is water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs, and includes return flow.

EXTREMES.--Maximum discharge observed,  $48 \text{ ft}^3/\text{s}$  June 14, 1986; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

DAY	1986						1987					
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
1	0.00	22	44	43	47	32	12					8.6
2	.00	24	44	45	45	29	14					8.6
3	.00	20	44	45	47	30	14					8.6
4	.00	22	44	41	45	30	18					8.6
5	.00	22	43	26	44	27	19					8.6
6	6.5	20	43	27	45	25	20					8.6
7	6.5	21	34	29	45	26	17					15
8	6.5	23	34	39	43	27	18					21
9	6.5	25	35	39	42	28	17					18
10	7.0	27	41	41	44	29	16					28
11	7.7	27	40	43	47	26	16					17
12	8.0	27	44	41	47	20	16					17
13	8.0	27	46	42	47	18	15					19
14	8.0	30	48	42	46	18	14					20
15	7.0	30	46	43	43	18	14					20
16	7.2	29	44	41	42	15	16					21
17	8.6	29	45	36	43	19	15					21
18	9.3	30	46	36	44	19	14					19
19	10	32	45	41	44	18	13					13
20	10	37	42	42	44	14	12					13
21	11	33	44	42	43	12	.00					19
22	22	29	42	43	43	10	.00					21
23	22	26	43	46	43	12	.00					16
24	22	23	45	47	42	14	.00					18
25	20	22	46	47	42	13	.00					17
26	20	22	45	42	41	13	.00					20
27	20	21	44	42	40	13	.00					22
28	20	29	42	42	39	13	.00					32
29	18	30	42	43	39	13	.00					29
30	19	38	42	47	29	12	.00					34
31	---	43	---	46	32	---	.00				0.00	---
TOTAL	310.80	840	1,287	1,269	1,327	593	310.00					541.6
MEAN	10.4	27.1	42.9	40.9	42.8	19.8	10.0					18.1
MAX	22	43	48	47	47	32	20					34
MIN	.00	20	34	26	29	10	.00					8.6
AC-FT	616	1,670	2,550	2,520	2,630	1,180	615					1,070

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12435850 S.C.B.I.D. EL85 CANAL BELOW EL85JJ LATERAL NEAR MESA, WA.

LOCATION.--Lat 46°38'06", long 118°59'22", in NE $\frac{1}{4}$  sec.12, T.13 N., R.30 E., Franklin County, Hydrologic Unit 17020016, 20 ft downstream of EL85JJ Lateral headgate, 1.5 mi northeast of Mesa.

GAGE.--Staff gage. Elevation of gage is 990 ft, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Flow is water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs, and includes return flow.

EXTREMES.--Maximum daily discharge, 24 ft<sup>3</sup>/s June 6, 1986; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

DAY	1986						1987					
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
1	0.00	12	20	18	17	20	6.3					0.00
2	.00	13	20	18	17	20	4.4					.00
3	.00	12	20	18	17	16	4.4					.00
4	.00	9.5	23	20	17	16	3.0					.00
5	.00	9.4	23	20	18	16	5.1					.00
6	5.9	12	24	15	21	16	5.1					.00
7	5.9	12	21	15	21	9.3	5.1					4.2
8	5.9	12	20	15	23	9.2	8.4					4.2
9	5.9	12	20	18	23	7.4	8.5					7.0
10	5.9	13	20	20	21	7.4	9.4					9.8
11	5.9	12	20	20	21	7.4	9.4					11
12	5.9	12	21	17	21	7.4	9.4					11
13	5.9	12	21	17	23	7.4	9.4					11
14	5.9	9.6	20	17	23	7.4	9.4					12
15	5.9	9.4	20	17	23	7.4	9.4					12
16	5.9	9.4	20	20	23	7.4	9.4					13
17	5.9	9.4	21	20	21	7.4	7.1					13
18	5.9	9.4	21	20	21	7.1	7.1					13
19	5.9	9.4	21	20	21	6.3	7.1					12
20	8.0	9.4	21	20	21	6.3	7.1					12
21	8.0	9.4	18	23	19	7.4	.00					12
22	8.0	13	18	23	19	7.4	.00					12
23	12	10	18	23	19	8.5	.00					12
24	12	9.9	18	21	19	8.5	.00					12
25	12	6.6	17	23	19	8.5	.00					12
26	12	6.5	17	20	19	6.3	.00					13
27	13	7.6	18	14	23	6.3	.00					13
28	13	9.4	18	14	23	6.3	.00					13
29	13	14	18	14	23	6.3	.00					12
30	13	14	18	18	23	6.3	.00					12
31	---	19	---	18	20	---	.00					---
TOTAL	206.60	338.3	595	576	639	280.6	144.50					268.20
MEAN	6.89	10.9	19.8	18.6	20.6	9.35	4.66					8.94
MAX	13	19	24	23	23	20	9.4					13
MIN	.00	6.5	17	14	17	6.3	.00					.00
AC-FT	410	671	1,180	1,140	1,270	557	287					532

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12471720 S.C.B.I.D. PRIEST RAPIDS WASTEWAY NEAR MOUTH, NEAR MATTAWA, WA.

LOCATION.--Lat  $46^{\circ}44'42''$ , long  $119^{\circ}56'38''$ , in SW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.33, T.15 N., R.23 E., Grant County, Hydrologic Unit 17020016, 0.3 mi west of road U SW, 2 mi west of Mattawa.

GAGE.--Water-stage recorder. Elevation of gage is 500 ft, from topographic map.

REMARKS.--No estimated daily discharge. Records fair except those above  $120 \text{ ft}^3/\text{s}$ , which are poor. Flow is return and waste from water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs.

EXTREMES.--Maximum discharge,  $184 \text{ ft}^3/\text{s}$  Sept. 30; there is flow only during irrigation season.

	MEAN DISCHARGE (CUBIC FEET PER SECOND)													
	1986											1987		
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	
1	0.00	40	42	58	120	68	95	95	2.6					
2	.00	50	79	64	95	56	75	60	2.0					
3	.00	49	96	75	93	51	67	60	.73					
4	.00	42	100	96	107	73	60	61	.00					
5	.00	63	93	81	80	76	61	63	.00					
6	.00	72	74	64	64	70	101	70	.00					
7	.00	73	60	57	64	85	105	51	.00					
8	.00	63	60	85	47	82	99	38	.00					
9	.00	66	62	67	38	57	100	32	.00					
10	.00	75	71	56	52	60	84	40	.00					
11	.00	85	67	40	60	75	105	63	.00					
12	.00	79	69	42	67	85	92	64	.00					
13	.00	91	59	59	75	84	123	61	.00					
14	.00	99	69	63	60	74	135	57	.00					
15	.00	100	73	91	75	77	124	41	.00					
16	.00	78	89	88	63	77	117	41	.00					
17	.00	64	85	97	85	79	104	47	.00					
18	.00	75	82	93	91	77	86	54	.00					
19	.00	76	90	95	84	98	78	54	.00					
20	.00	82	86	74	91	98	75	58	.00					
21	.00	80	76	108	89	107	79	54	.00					
22	.00	65	73	111	59	94	80	57	.00					
23	.00	99	94	95	51	78	94	74	.00					
24	22	75	101	72	53	76	92	114	.00					
25	11	75	101	42	71	90	90	119	.00					
26	72	83	99	47	87	94	96	107	.00					
27	89	71	98	96	108	79	88	50	.00					
28	82	72	70	112	106	87	89	12	.00					
29	94	53	53	94	100	101	89	6.5	.00					
30	80	46	48	125	86	111	103	4.5	.00					
31	86	---	50	---	76	97	---	3.3	---					
TOTAL	536.00	1,141	2,369	2,347	2,397	2,516	2,786	1,711.3	5.33					
MEAN	17.3	71.4	76.4	78.2	77.3	81.2	92.9	55.2	.18					
MAX	94	100	101	125	120	111	135	119	2.6					
MIN	.00	40	42	40	38	51	60	3.3	.00					
AC-FT	1,060	4,250	4,700	4,660	4,750	4,990	5,530	3,390	11					

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12471722 S.C.B.I.D. WB48E WASTEWAY, NEAR MATTAWA, WA.

LOCATION.--Lat  $46^{\circ}42'32''$ , long  $119^{\circ}56'04''$ , in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.10, T.14 N., R.23 E., Grant County, Hydrologic Unit 17020016, 0.1 mi northeast of intersection of roads 26 SW and U SW, 2 mi southwest of Mattawa.

GAGE.--Water-stage recorder. Elevation of gage is 520 ft, from topographic map.

REMARKS.--No estimated daily discharge. Records good. Most flow is return and waste from water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs.

EXTREMES.--Maximum discharge, 9.2 ft<sup>3</sup>/s Sept. 11; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986						1987						
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
1	0.00	1.4	2.8	2.4	4.2	5.3	4.0	4.9					
2	.00	.97	2.2	1.8	3.1	4.5	4.7	4.9					
3	.00	1.2	3.6	.95	1.4	4.4	5.7	4.0					
4	.00	1.8	4.3	.48	1.7	4.3	5.9	3.2					
5	.00	3.1	4.2	1.8	2.3	4.6	5.0	3.1					
6	.00	4.4	4.0	2.6	2.4	5.3	4.8	4.0					
7	.00	3.6	3.9	2.4	3.1	5.0	5.3	4.5					
8	.00	1.5	4.5	3.2	2.7	4.5	6.8	4.3					
9	.00	1.2	3.0	3.5	3.2	5.9	6.8	4.3					
10	.00	1.2	3.5	3.6	3.2	6.6	6.5	4.3					
11	.00	1.9	4.5	4.0	3.0	5.0	6.5	4.3					
12	.00	2.1	3.1	3.3	2.4	4.0	5.7	4.2					
13	.00	1.8	3.5	3.2	1.7	4.3	5.7	3.2					
14	.00	1.9	4.7	3.8	2.8	4.1	5.4	2.0					
15	.00	1.4	4.9	4.7	5.0	3.9	5.6	2.0					
16	.00	1.8	5.1	3.7	2.6	4.6	4.7	3.0					
17	.00	3.3	3.5	2.8	2.5	4.8	3.3	3.0					
18	.00	3.8	2.0	2.8	2.8	4.2	4.3	3.1					
19	.00	4.0	2.1	3.5	3.4	3.8	6.0	4.5					
20	.00	4.0	2.3	3.4	2.4	4.0	5.8	3.5					
21	.00	4.2	4.7	4.0	2.2	5.4	5.3	2.6					
22	.00	3.6	4.3	4.9	4.0	5.2	5.2	3.5					
23	.00	2.5	3.5	5.0	2.4	5.0	5.1	2.3					
24	.00	2.2	3.5	4.2	2.7	3.9	4.2	.00					
25	.00	2.3	3.6	4.3	3.2	3.7	4.3	.00					
26	.00	3.4	3.8	4.4	2.9	3.6	5.1	.00					
27	1.4	3.3	3.7	4.9	2.5	3.8	5.0	.00					
28	4.4	3.4	5.3	4.6	2.2	3.8	5.0	.00					
29	4.4	3.4	4.5	4.0	3.1	4.8	5.0	.00					
30	4.3	3.6	3.1	3.9	3.4	4.7	4.9	.00					
31	2.9	---	3.2	---	4.9	4.2	---	.00					
TOTAL	17.40	78.27	114.9	102.13	89.4	141.2	157.6	82.70					
MEAN	.56	2.61	3.71	3.40	2.88	4.55	5.25	2.67					
MAX	4.4	4.4	5.3	5.0	5.0	6.6	6.8	4.9					
MIN	.00	.97	2.0	.48	1.4	3.6	3.3	.00					
AC-FT	35	155	228	203	177	280	313	164					

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12471724 S.C.B.I.D. MATTAWA WASTEWAY, NEAR MATTAWA, WA.

LOCATION.--Lat 46°39'14", long 119°47'48", in SW<sub>1/4</sub>SE<sub>1/4</sub> sec.34, T.14 N., R.24 E., Grant County, Hydrologic Unit 17020016,  
1.3 mi above mouth, 6 mi southeast of Mattawa.

GAGE.--Water-stage recorder. Elevation of gage is 710 ft, from topographic map.

REMARKS.--Estimated daily discharges: Oct.19-21, 24, 25. Records good except for estimated daily discharges, which  
are poor. Flow is return and waste from water imported for irrigation from the Columbia Basin Project, which is  
supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a  
complicated network of canals and reservoirs.

EXTREMES.--Maximum discharge, 35 ft<sup>3</sup>/s May 2; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987			
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR			
1	0.00	16	32	25	15	19	19	14								
2	.00	14	32	25	17	22	18	16								
3	.00	16	29	16	20	23	13	18								
4	.00	15	30	29	21	21	18	16								
5	.00	13	30	26	24	21	22	18								
6	.00	11	30	23	25	15	21	15								
7	.00	9.3	28	22	25	16	20	11								
8	.00	8.6	32	19	24	13	23	13								
9	.00	14	32	20	27	14	22	12								
10	.00	20	30	21	23	19	20	13								
11	.00	23	27	22	19	18	17	14								
12	.00	24	28	21	21	21	16	14								
13	.00	25	24	21	22	19	15	18								
14	.00	26	23	25	20	20	16	18								
15	.00	23	28	28	19	18	14	15								
16	.00	20	26	26	18	15	16	14								
17	.00	20	27	24	21	17	16	18								
18	.00	22	24	22	18	19	13	16								
19	.00	24	23	21	19	18	9.3	15								
20	.00	24	25	21	20	19	11	15								
21	.00	25	22	22	19	18	17	14								
22	.00	23	25	20	15	21	20	15								
23	.00	23	27	20	20	23	19	15								
24	.00	27	25	19	22	21	17	1.0								
25	.00	27	22	19	19	19	17	.20								
26	3.9	25	21	20	18	18	16	.00								
27	16	23	25	21	20	13	15	.00								
28	15	25	22	21	19	14	14	.00								
29	17	28	18	21	20	21	15	.00								
30	16	28	19	17	18	19	19	.00								
31	14	---	24	---	16	17	---	.00								
TOTAL	81.90	621.9	810	657	624	571	508.3	348.20								
MEAN	2.64	20.7	26.1	21.9	20.1	18.4	16.9	11.2								
MAX	17	28	32	29	27	23	23	18								
MIN	.00	8.6	18	16	15	13	9.3	.00								
AC-FT	162	1,230	1,610	1,300	1,240	1,130	1,010	691								

Table 2.--Continued

SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM  
12472950 S.C.B.I.D. SADDLE MOUNTAIN WASTEWAY, NEAR MATTAWA, WA.

LOCATION.--Lat 46°42'09", long 119°39'37", in SW<sub>1</sub>NW<sub>1</sub> sec.14, T.14 N., R.25 E., Grant County, Hydrologic Unit 17020016, 0.8 mi above Saddle Mountain Lake, 11 mi southeast of Mattawa.

GAGE.--Water-stage recorder. Elevation of gage is 630 ft, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 4-7, 1986. Records good except those for Oct. 21 to Nov. 18, 1986, which are fair. Most flow is return and waste from water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs.

EXTREMES.--Maximum discharge, 128 ft<sup>3</sup>/s Apr. 24, 1986; minimum, 1.8 ft<sup>3</sup>/s Mar. 19, 21, 22, 1986.

MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987		
DAY	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	
1	---	2.3	31	47	37	45	41	53	61	24	7.5	5.7	4.1	3.1	
2	---	2.3	51	41	39	41	49	54	70	23	7.2	5.3	4.0	2.9	
3	---	2.3	54	56	32	44	52	58	61	21	7.0	5.5	3.9	2.7	
4	---	2.4	43	60	51	45	50	57	60	20	6.9	5.2	3.8	2.7	
5	---	2.4	49	58	43	45	39	57	58	20	6.9	5.1	3.7	2.8	
6	---	2.5	82	55	36	47	38	58	56	20	6.5	4.7	3.8	2.6	
7	---	2.6	70	55	37	46	38	60	47	16	6.4	4.6	3.9	2.6	
8	---	2.6	59	47	43	41	38	62	48	10	6.2	4.6	3.9	2.8	
9	---	2.4	52	45	43	41	37	56	63	9.0	6.2	4.6	4.0	2.7	
10	---	2.5	57	46	38	42	44	44	70	8.5	6.4	4.6	3.9	2.7	
11	---	2.4	56	49	39	46	47	43	60	8.2	6.4	4.7	3.9	2.7	
12	---	2.3	62	47	34	43	54	51	58	7.7	6.4	4.7	3.9	2.7	
13	---	2.5	60	48	39	53	48	64	65	7.0	6.5	4.6	4.1	2.7	
14	---	2.4	63	50	45	53	45	74	46	6.7	6.5	4.6	3.9	2.6	
15	---	2.5	63	49	45	47	43	69	39	7.1	6.7	4.4	4.0	2.6	
16	---	2.4	57	45	39	53	40	61	35	7.0	7.2	4.4	3.9	2.5	
17	---	2.2	62	39	33	51	52	68	34	6.4	6.7	4.4	3.9	2.5	
18	---	2.2	59	49	32	51	50	70	39	6.4	6.6	4.4	3.9	---	
19	---	2.1	57	46	33	50	51	69	45	5.7	6.5	4.3	3.8	---	
20	---	2.1	69	44	36	48	49	63	50	5.6	6.4	4.4	3.8	---	
21	---	2.0	68	50	36	52	42	69	56	6.5	6.3	4.4	3.9	---	
22	---	2.0	49	53	31	46	43	70	92	6.6	6.3	4.5	4.0	---	
23	---	2.2	49	50	34	42	49	70	80	6.4	6.1	4.6	3.8	---	
24	---	35	99	35	33	37	56	70	109	6.3	6.0	4.6	3.4	---	
25	2.3	20	52	33	40	39	56	64	80	6.0	5.9	4.4	3.3	---	
26	2.2	40	43	36	37	33	49	59	54	9.1	5.8	4.4	3.1	---	
27	2.2	20	49	43	38	36	45	60	26	10	5.6	4.5	3.1	---	
28	2.3	21	53	35	37	46	49	60	25	9.0	5.6	4.4	3.1	---	
29	---	27	49	31	50	46	51	63	28	8.1	5.6	4.1	---	---	
30	---	25	52	33	55	56	52	64	25	7.7	5.5	4.2	---	---	
31	---	24	---	33	---	50	56	---	24	---	5.5	4.2	---	---	
TOTAL	---	265.6	1,719	1,408	1,165	1,415	1,453	1,840	1,664	315.0	197.3	143.1	105.8	---	
MEAN	---	8.57	57.3	45.4	38.8	45.6	46.9	61.3	53.7	10.5	6.36	4.62	3.78	---	
MAX	---	40	99	60	55	56	56	74	109	24	7.5	5.7	4.1	---	
MIN	---	2.0	31	31	31	33	37	43	24	5.6	5.5	4.1	3.1	---	
AC-FT	---	527	3,410	2,790	2,310	2,810	2,880	3,650	3,300	625	391	284	210	---	

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12473200 S.C.B.I.D. WB10 WASTEWAY NEAR MOUTH, NEAR WHITE BLUFFS, WA.

LOCATION.--Lat 46°40'36", long 119°26'38", in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.28, T.14 N., R.27 E., Franklin County, Hydrologic Unit 17020016, 2 mi northeast of White Bluffs townsite.

GAGE.--Water-stage recorder. Elevation of gage is 390 ft, from topographic map.

REMARKS.--Estimated daily discharges: June 8-21, Nov. 20-24, 1986, Jan. 15-26, 1987. Records good except for estimated daily discharges, which are poor. Most flow is return and waste from water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs.

EXTREMES.--Maximum discharge, 15 ft<sup>3</sup>/s Sept. 16, 17, 18, 1986, Feb. 23, 24, 1987; minimum daily, 0.10 ft<sup>3</sup>/s June 8-21, 1986.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987			
DAY	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	
1	---	9.2	3.2	8.3	4.0	4.6	1.3	6.5	6.1	7.7	5.1	5.8	8.3	3.5	1.2	
2	---	8.6	3.0	9.1	3.2	4.8	2.6	7.1	5.2	7.1	4.9	6.1	8.6	3.4	1.2	
3	---	8.3	2.8	9.8	2.4	5.6	4.1	8.0	4.6	6.5	4.8	6.6	8.5	3.4	1.5	
4	---	9.2	2.3	9.4	1.7	5.8	4.3	8.2	7.1	6.2	4.5	6.8	7.9	3.5	4.6	
5	---	10	1.9	9.0	1.4	5.7	4.4	7.5	9.2	6.2	4.9	6.6	6.9	3.6	3.2	
6	---	10	1.9	9.3	1.2	5.2	5.3	6.5	8.6	6.0	5.6	6.3	6.3	3.7	2.8	
7	---	10	2.4	10	1.0	5.1	7.1	5.6	7.6	6.7	5.7	6.0	6.0	4.0	3.1	
8	---	11	5.2	11	.90	5.8	7.7	6.2	7.2	6.2	5.5	5.6	6.0	4.8	3.6	
9	---	11	3.7	9.9	.80	5.9	7.7	8.4	7.4	5.9	4.9	5.1	5.8	4.4	3.8	
10	---	10	3.7	8.8	.70	6.0	7.7	9.4	7.7	5.2	4.8	4.6	5.7	3.7	4.1	
11	---	9.9	4.2	7.8	.60	6.1	7.1	9.8	7.1	5.1	4.5	3.9	5.7	3.6	4.8	
12	---	9.6	4.4	7.7	.40	5.5	6.7	9.9	5.9	4.9	4.6	4.0	5.6	4.5	7.6	
13	---	9.1	5.0	7.9	.30	5.0	6.8	9.7	5.6	5.1	4.9	4.5	5.9	5.4	10	
14	---	8.7	7.9	7.7	.20	4.5	7.8	9.7	5.3	5.2	5.2	5.0	6.0	6.2	10	
15	---	8.2	7.7	7.5	.10	3.7	8.0	12	5.3	5.3	5.1	3.8	5.9	6.3	10	
16	---	7.7	8.0	7.6	.10	3.1	7.6	14	5.8	5.4	5.4	3.6	5.7	6.0	10	
17	---	7.1	8.4	8.4	.10	3.0	6.8	15	6.6	5.5	5.4	3.6	5.5	5.4	10	
18	---	6.6	8.5	8.4	.10	3.0	6.3	14	7.0	5.8	5.4	3.6	5.2	4.9	9.8	
19	---	6.1	8.4	8.9	.10	2.9	6.9	13	6.7	5.6	5.7	3.6	4.8	4.9	9.1	
20	---	5.7	8.1	9.0	.10	2.8	7.1	12	6.0	5.5	5.8	3.6	4.4	5.1	8.2	
21	9.0	5.4	7.2	8.7	1.0	2.9	6.3	12	5.9	5.4	5.7	3.6	4.2	5.0	7.7	
22	8.9	5.0	6.3	8.4	3.6	2.9	5.4	13	8.6	4.9	5.9	3.8	4.3	4.6	7.6	
23	9.8	4.9	6.1	8.2	4.3	2.5	4.8	12	9.9	4.9	6.1	3.8	7.1	4.2	7.7	
24	11	5.3	6.8	8.4	3.4	2.2	4.8	12	9.5	5.5	6.4	3.8	8.2	3.8	---	
25	11	5.5	8.7	8.9	2.6	1.9	5.4	11	8.5	5.2	6.2	4.0	4.6	3.3	---	
26	11	5.5	9.1	8.6	1.9	1.2	5.6	9.8	7.5	4.4	6.5	4.0	4.1	2.9	---	
27	10	5.5	8.1	8.2	1.4	1.1	5.1	8.5	7.4	4.5	6.4	4.0	3.9	2.5	---	
28	9.7	5.5	7.8	7.5	2.1	1.0	4.8	7.6	8.3	4.9	6.2	5.8	3.6	1.9	---	
29	---	5.1	7.8	6.6	3.3	1.0	5.1	6.8	8.6	5.3	6.1	6.4	---	1.6	---	
30	---	4.9	8.1	5.7	4.3	1.0	5.5	6.5	8.6	5.2	6.0	7.0	---	1.4	---	
31	---	4.3	---	4.9	---	1.1	5.8	---	8.5	---	5.6	7.1	---	1.3	---	
TOTAL	---	232.9	176.7	259.6	47.30	112.9	181.9	291.7	223.3	167.3	169.8	152.0	164.7	122.8	---	
MEAN	---	7.51	5.89	8.37	1.58	3.64	5.87	9.72	7.20	5.58	5.48	4.90	5.88	3.96	---	
MAX	---	11	9.1	11	4.3	6.1	8.0	15	9.9	7.7	6.5	7.1	8.6	6.3	---	
MIN	---	4.3	1.9	4.9	.10	1.0	1.3	5.6	4.6	4.4	4.5	3.6	3.6	1.3	---	
AC-FT	---	462	350	515	94	224	361	579	443	332	337	301	327	244	---	

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12473502 S.C.B.I.D. WB5 WASTEWAY AT DROP STRUCTURE NO. 14, NEAR HANFORD, WA.

LOCATION.--Lat  $46^{\circ}32'23''$ , long  $119^{\circ}16'30''$ , in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.11, T.12 N., R.28 E., Franklin County, Hydrologic Unit 17020016, 4 mi southeast of Hanford townsite.

GAGE.--Water-stage recorder. Elevation of gage is 440 ft, from topographic map.

REMARKS.--Estimated daily discharges: Feb. 22 to June 17, Sep. 30 to Oct. 22, 1986, Jan. 16-23, 1987. Records good except for estimated daily discharges, which are poor. Most flow is return and waste from water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs.

EXTREMES.--Maximum discharge, 96 ft<sup>3</sup>/s June 27, 1986, but may have been higher during periods of estimated discharge; minimum daily, 6.4 ft<sup>3</sup>/s Jan. 17-21, 1987.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987			
DAY	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	
1	---	10	9.8	58	63	83	78	67	49	14	8.7	8.2	8.2	7.4	44	
2	---	10	13	58	63	76	76	66	49	14	8.6	8.0	9.1	7.6	47	
3	---	10	15	59	63	83	75	73	49	14	8.4	8.3	9.1	7.7	42	
4	---	9.9	18	59	63	86	75	69	50	14	8.5	8.0	8.7	7.8	44	
5	---	9.8	21	60	62	82	74	59	50	14	9.1	7.7	8.7	8.0	46	
6	---	9.7	24	60	62	84	79	59	50	14	8.6	7.6	8.7	7.8	56	
7	---	9.7	26	60	62	81	80	58	50	14	8.3	7.3	8.7	7.6	58	
8	---	9.7	29	61	62	75	76	62	50	13	8.2	7.2	8.8	7.6	49	
9	---	9.7	32	61	62	68	76	56	50	13	8.0	7.2	9.0	7.7	50	
10	---	9.7	34	62	61	65	78	54	50	13	8.0	7.3	9.1	7.7	46	
11	---	9.7	37	62	61	67	77	55	50	13	8.0	7.3	9.0	8.0	38	
12	---	9.7	40	63	61	65	70	56	51	13	8.0	7.4	9.0	9.1	43	
13	---	9.7	43	63	61	60	68	57	51	13	8.1	7.3	9.5	9.3	48	
14	---	9.7	46	64	60	64	73	64	51	12	8.0	7.8	9.2	9.0	51	
15	---	9.7	48	64	60	75	74	60	51	12	8.0	6.9	9.1	9.1	50	
16	---	9.7	51	64	60	75	77	61	51	12	7.7	6.5	8.9	8.9	55	
17	---	9.7	51	65	60	72	76	65	51	12	7.7	6.4	8.9	8.7	61	
18	---	9.7	52	65	73	74	75	63	51	12	7.9	6.4	8.7	8.7	69	
19	---	9.7	52	66	80	81	69	65	51	13	8.0	6.4	8.7	8.8	59	
20	---	9.8	53	66	84	74	67	55	52	12	7.8	6.4	8.7	8.9	62	
21	---	9.8	53	66	79	73	59	51	52	12	7.6	6.4	9.0	8.6	68	
22	11	9.8	54	65	80	73	67	50	52	12	7.8	6.6	9.1	8.3	69	
23	11	9.8	54	65	84	68	70	55	52	12	7.8	6.8	9.1	8.3	74	
24	11	9.8	55	65	78	73	71	55	31	11	7.9	6.9	9.6	8.2	---	
25	11	9.8	55	65	79	73	69	51	19	9.1	7.6	6.9	7.3	8.7	---	
26	11	9.8	56	64	80	79	64	50	16	9.4	7.9	6.9	7.4	14	---	
27	10	9.8	56	64	89	76	63	50	16	9.4	7.6	7.1	7.2	21	---	
28	10	9.8	56	64	83	77	63	49	16	9.6	7.6	7.6	7.2	33	---	
29	---	9.8	57	64	84	72	65	49	15	9.0	7.5	7.5	---	29	---	
30	---	9.8	57	64	85	72	67	49	15	8.7	7.6	7.6	---	28	---	
31	---	9.8	---	63	---	76	67	---	14	---	7.6	8.3	---	31	---	
TOTAL	---	303.1	1,247.8	1,949	2,104	2,302	2,218	1,733	1,305	363.2	248.1	224.2	243.7	363.5	---	
MEAN	---	9.78	41.6	62.9	70.1	74.3	71.5	57.8	42.1	12.1	8.00	7.23	8.70	11.7	---	
MAX	---	10	57	66	89	86	80	73	52	14	9.1	8.3	9.6	33	---	
MIN	---	9.7	9.8	58	60	60	59	49	14	8.7	7.5	6.4	7.2	7.4	---	
AC-FT	---	601	2,480	3,870	4,170	4,570	4,400	3,440	2,590	720	492	445	483	721	---	

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12473504 RINGOLD SPRINGS BELOW STATE SALMON HATCHERY, NEAR HANFORD, WA.

LOCATION.--Lat  $46^{\circ}30'38''$ , long  $119^{\circ}15'34''$ , in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.23, T.12 N., R.28 E., Franklin County, Hydrologic Unit 17020016, at Ringold Salmon Hatchery, 7 mi southeast of Hanford Townsite.

GAGE.--Staff gage. Elevation of gage is 340 ft, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 20, Apr. 22 to May 14, 1986, Feb. 1-11, Feb. 13 to Mar. 14, Apr. 1-4, 19-22, 1987. Records Fair.

EXTREMES.--Maximum daily discharge, 26 ft<sup>3</sup>/s July 24, 27-31, 1986; minimum, 13 ft<sup>3</sup>/s most days February and March 1987.

	MEAN DISCHARGE (CUBIC FEET PER SECOND)												
	1986						1987						
DAY	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	---	16	19	23	25	25	21	22	15	15	14	13	14
2	---	16	19	24	25	24	22	22	16	15	14	13	14
3	---	16	19	24	25	24	22	22	15	15	14	13	14
4	---	16	19	24	25	24	22	22	16	15	14	13	14
5	---	16	19	24	25	24	22	21	15	15	14	13	14
6	---	16	20	24	24	24	22	20	15	14	14	13	14
7	---	16	20	24	24	23	22	20	15	15	13	13	14
8	---	16	20	25	24	22	22	19	15	15	13	13	15
9	---	16	20	25	24	22	22	19	14	15	13	13	15
10	---	17	20	25	25	22	22	19	14	15	13	13	15
11	---	17	20	25	25	22	22	19	15	15	13	13	15
12	---	17	20	25	25	22	22	19	15	15	13	13	15
13	---	17	21	25	25	22	22	19	15	15	13	13	15
14	---	17	21	25	25	22	23	19	15	15	13	13	15
15	---	17	21	25	25	22	23	19	15	15	13	13	17
16	---	17	22	25	25	22	23	19	15	15	13	13	17
17	---	17	22	25	25	22	22	18	15	15	13	13	17
18	---	17	22	25	25	22	23	18	15	15	13	13	17
19	15	17	22	25	25	22	23	17	15	15	13	13	17
20	15	18	22	25	25	22	23	17	15	15	13	13	17
21	15	18	23	25	25	22	23	17	15	15	13	13	17
22	15	18	23	25	25	22	23	17	15	15	13	13	17
23	15	18	23	25	25	22	22	17	14	15	13	13	17
24	15	18	23	26	25	22	23	16	15	15	13	13	---
25	15	18	23	25	25	22	22	17	15	15	13	13	---
26	15	18	23	25	25	22	22	16	15	15	13	13	---
27	16	18	23	26	25	22	23	16	15	16	13	13	---
28	16	19	23	26	25	22	23	16	15	14	13	13	---
29	16	19	23	26	25	22	24	16	15	14	---	14	---
30	16	19	23	26	25	22	23	16	15	14	---	14	---
31	---	19	---	26	25	---	23	---	15	14	---	14	---
TOTAL	---	534	638	773	771	674	696	554	464	461	370	406	---
MEAN	---	17.2	21.3	24.9	24.9	22.5	22.5	18.5	15.0	14.9	13.2	13.1	---
MAX	---	19	23	26	25	25	24	22	16	16	14	14	---
MIN	---	16	19	23	24	22	21	16	14	14	13	13	---
AC-FT	---	1,060	1,270	1,530	1,530	1,340	1,380	1,100	920	914	734	805	---

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12473506 S.C.B.I.D. PE16.4 WASTEWAY BELOW EAGLE LAKE, NEAR OTHELLO, WA.

LOCATION.--Lat 46°40'24", long 119°08'56", in SE<sub>1/4</sub>NW<sub>1/4</sub> sec.26, T.14 N., R.29 E., Franklin County, Hydrologic Unit 17020016, at Hendricks Road crossing, 9 mi south of Othello.

GAGE.--Staff gage. Elevation of gage is 790 ft, from topographic map.

REMARKS.--Discharge for days with no record not estimated. Available record fair. Most flow is return and waste from water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs.

EXTREMES.--Maximum discharge observed, 148 ft<sup>3</sup>/s July 21, 1986; minimum observed, 39 ft<sup>3</sup>/s Mar. 31, 1987.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987			
DAY	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	Mar	APR	
1	---	50	52	73	98	115	141	126	133	123	52	50	50	40	41	
2	---	50	53	74	99	116	140	126	134	125	52	50	50	40	43	
3	---	49	54	75	99	118	140	125	134	127	52	50	50	40	45	
4	---	49	55	76	100	119	139	125	134	120	52	49	50	41	47	
5	---	48	55	77	100	120	138	124	135	113	52	49	50	41	49	
6	---	48	56	77	101	122	137	124	135	107	52	49	49	41	51	
7	---	47	57	78	101	123	136	123	133	100	52	49	49	42	51	
8	---	46	58	78	102	126	136	123	131	93	52	49	49	42	51	
9	---	46	58	78	103	128	135	123	129	86	52	49	49	42	51	
10	---	45	59	78	102	131	134	123	127	79	52	49	48	42	52	
11	---	45	59	79	102	134	133	123	124	73	52	48	48	42	52	
12	---	44	60	79	101	136	132	123	122	65	53	48	48	42	52	
13	---	44	61	81	100	139	132	123	120	64	53	48	47	42	52	
14	---	43	62	83	100	141	131	123	118	62	53	48	47	43	53	
15	---	42	63	84	99	142	130	123	116	61	53	48	47	43	53	
16	---	42	63	85	98	144	130	124	114	59	52	48	46	43	54	
17	---	41	64	87	98	146	129	126	112	58	52	47	46	43	55	
18	---	40	64	88	99	147	129	127	110	58	52	46	46	43	56	
19	---	41	65	89	100	147	128	128	107	57	52	46	45	43	56	
20	---	42	66	90	102	148	126	129	105	57	52	46	44	42	57	
21	---	43	66	91	103	148	126	129	104	56	51	47	44	42	57	
22	---	44	67	91	104	147	126	130	102	56	51	47	44	42	58	
23	---	45	67	92	105	147	127	130	104	56	51	47	43	42	58	
24	52	46	68	93	106	146	127	131	106	55	51	48	42	42	57	
25	52	47	69	94	108	145	127	131	109	55	51	48	42	41	56	
26	51	47	69	95	109	145	127	131	111	54	51	48	42	41	55	
27	51	48	70	96	110	144	127	132	113	54	51	48	41	40	54	
28	50	48	71	96	112	144	127	132	115	54	50	49	40	40	---	
29	---	49	72	97	113	143	126	132	117	53	50	49	---	40	---	
30	---	50	73	97	114	142	126	133	119	53	50	49	---	39	---	
31	---	51	---	98	---	142	126	---	121	---	50	50	---	39	---	
TOTAL	---	1,420	1,876	2,649	3,088	4,235	4,068	3,802	3,694	2,233	1,601	1,496	1,296	1,285	---	
MEAN	---	45.8	62.5	85.5	103	137	131	127	119	74.4	51.6	48.3	46.3	41.5	---	
MAX	---	51	73	98	114	148	141	133	135	127	53	50	50	43	---	
MIN	---	40	52	73	98	115	126	123	102	53	50	46	40	39	---	
AC-FT	---	2,820	3,720	5,250	6,130	8,400	8,070	7,540	7,330	4,430	3,180	2,970	2,570	2,550	---	

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12473508 S.C.B.I.D. PE16.4 WASTEWAY NEAR MOUTH, NEAR HANFORD, WA.

LOCATION.--Lat 46°30'22", long 119°15'22", in SW<sub>1/4</sub>SW<sub>1/4</sub> sec.24, T.12 N., R.28 E., Franklin County, Hydrologic Unit 17020016, 1,000 ft above mouth, at Ringold Flat, 5 mi southeast of Hanford townsite.

GAGE.--Water-stage recorder. Elevation of gage is 380 ft, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow is a combination of waste and return flow from water imported for irrigation from the Columbia Basin Project plus flow from nearby springs. The Columbia Basin Project is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs.

EXTREMES.--Maximum discharge, 294 ft<sup>3</sup>/s July 6, 28, 29, 1986; minimum, 27 ft<sup>3</sup>/s Mar. 21, 1987.

	MEAN DISCHARGE (CUBIC FEET PER SECOND)														
	1986						1987								
DAY	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	---	71	55	157	208	254	278	246	250	189	157	128	73	53	93
2	---	70	62	145	174	231	275	231	233	150	161	129	73	56	101
3	---	68	82	151	170	231	259	231	228	148	155	128	71	56	80
4	---	67	84	144	160	244	251	250	237	149	146	126	70	56	76
5	---	66	95	162	176	261	245	244	247	149	147	129	70	53	74
6	---	65	99	181	181	288	234	239	242	148	143	129	70	50	79
7	---	65	90	174	194	263	230	242	234	147	142	121	69	48	84
8	---	65	99	160	208	232	220	259	233	144	141	114	68	47	103
9	---	65	108	158	209	216	231	243	237	137	139	108	68	46	114
10	---	64	112	168	208	218	252	236	238	128	138	106	67	47	131
11	---	63	138	173	188	231	247	241	228	121	136	104	66	46	141
12	---	62	157	172	163	219	243	245	227	114	136	104	66	41	136
13	---	61	164	175	153	221	237	261	213	110	135	104	66	40	131
14	---	62	165	176	169	221	238	264	239	107	135	90	66	39	117
15	---	61	143	157	254	228	253	262	244	105	134	68	65	38	97
16	---	60	122	155	229	235	258	265	244	103	131	61	63	37	89
17	---	58	133	165	191	247	264	263	234	102	130	62	62	36	88
18	---	58	135	192	203	247	269	267	237	100	129	67	61	35	105
19	---	58	136	196	212	227	266	267	233	100	131	67	61	35	106
20	---	57	121	205	222	235	262	257	231	99	131	68	61	35	104
21	---	55	121	210	232	255	256	243	239	98	129	68	60	32	110
22	78	54	128	204	239	223	253	246	206	97	129	68	59	37	127
23	79	53	117	202	227	233	251	250	166	95	128	69	57	33	138
24	76	55	129	192	211	252	259	274	154	93	128	69	54	36	145
25	74	54	138	185	185	249	251	280	156	93	128	69	56	50	---
26	74	52	149	182	187	260	248	272	163	111	127	70	58	66	---
27	73	53	144	189	210	278	238	265	154	146	127	70	55	58	---
28	72	64	162	173	222	288	222	264	165	160	127	71	52	83	---
29	---	63	169	171	254	285	236	267	185	154	126	71	---	77	---
30	---	63	157	181	261	282	235	258	202	153	126	71	---	78	---
31	---	52	---	203	---	276	259	---	211	---	128	72	---	78	---
TOTAL	---	1,884	3,714	4,458	6,100	7,630	7,720	7,632	6,710	3,750	4,200	2,781	1,787	1,522	---
MEAN	---	60.8	124	176	203	246	249	254	216	125	135	89.7	63.8	49.1	---
MAX	---	71	169	210	261	288	278	280	250	189	161	129	73	83	---
MIN	---	52	55	144	153	216	220	231	154	93	126	61	52	32	---
AC-FT	---	3,740	7,370	10,830	12,100	15,130	15,310	15,140	13,310	7,440	8,330	5,520	3,540	3,020	---

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12473510 COLUMBIA RIVER AT RINGOLD, WA.

LOCATION.--Lat 46°29'16", long 119°5'15", in SE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.36, T.12 N., R.14 E., Franklin County, Hydrologic Unit 17020016, on left bank, 0.5 mi south of Ringold, at mile 352.7.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

EXTREMES.--Maximum elevation recorded, 358.06 ft Apr.16, 1986; minimum recorded, 347.22 ft Sept. 21, 1986.

DAY	ELEVATION (NGVD)													
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	---	355.59	355.25	352.00	351.78	347.85	351.16	350.68	349.55	351.00	351.21	351.02	351.03	353.03
2	---	354.82	354.78	350.96	352.43	351.13	349.78	350.25	352.49	350.12	350.88	350.86	350.60	353.81
3	---	354.52	355.66	350.89	351.86	351.87	349.40	---	352.31	351.40	351.64	351.42	351.05	352.72
4	---	353.04	355.73	349.91	350.76	352.06	---	---	351.06	350.75	351.23	351.15	351.21	353.55
5	---	352.83	355.18	348.29	352.17	352.49	---	352.50	351.24	351.16	351.23	350.16	349.85	355.61
6	---	354.31	354.70	347.54	352.76	352.76	---	352.30	351.32	352.51	351.20	350.18	350.39	355.44
7	---	354.21	354.20	348.16	352.29	351.29	350.92	352.13	350.97	353.80	350.75	350.12	351.75	354.19
8	---	354.63	353.51	350.74	352.76	351.40	---	351.01	351.02	354.72	350.74	349.73	351.80	355.57
9	---	353.55	353.66	351.30	352.90	350.59	351.07	352.09	353.32	355.13	350.90	349.60	351.65	355.57
10	---	355.04	354.22	---	352.34	348.84	350.24	351.84	352.68	354.48	351.48	349.76	351.25	354.89
11	---	354.51	353.99	---	351.88	350.24	348.64	352.06	352.68	353.57	351.59	350.13	352.26	355.31
12	---	354.21	354.26	---	353.49	349.13	350.34	351.99	353.08	353.86	351.94	349.93	350.37	356.21
13	---	354.87	353.34	---	353.18	349.43	350.30	351.67	352.81	353.37	351.89	350.09	350.18	356.48
14	---	355.16	353.78	---	352.44	348.49	350.86	352.02	352.79	353.63	350.56	350.10	350.89	356.17
15	---	354.81	353.34	---	352.79	350.04	---	351.91	352.62	354.12	349.96	349.63	351.28	356.36
16	356.81	354.02	353.75	---	352.22	351.99	350.82	351.50	352.31	355.50	350.31	349.63	351.91	356.09
17	355.35	353.91	353.21	---	351.34	348.82	350.96	352.00	352.29	354.71	350.45	349.65	353.00	354.42
18	355.47	353.90	353.32	---	351.51	348.57	350.88	351.68	352.28	354.03	351.40	349.60	352.37	354.95
19	352.37	353.93	351.98	---	352.41	348.74	350.06	351.38	351.16	353.83	352.19	349.59	350.30	355.03
20	352.46	354.19	352.11	---	352.74	348.34	350.34	351.67	351.19	353.73	351.81	349.68	350.36	353.52
21	352.74	354.49	352.01	---	352.01	347.56	351.06	---	351.16	354.23	351.45	349.71	351.12	---
22	355.46	354.41	351.65	---	351.57	348.83	350.32	---	350.78	354.80	351.29	349.62	351.85	---
23	355.54	353.04	352.97	---	351.13	350.04	351.11	---	351.27	354.64	352.28	349.58	351.99	---
24	355.83	353.31	353.65	---	348.70	349.14	---	---	351.01	353.41	352.45	350.19	351.47	---
25	355.96	352.34	353.50	354.31	349.22	349.26	---	351.46	350.57	354.00	352.81	352.28	350.51	---
26	355.37	352.14	352.05	354.51	351.32	349.53	350.33	350.57	350.14	352.46	353.53	353.52	349.89	---
27	353.97	352.98	351.56	354.79	351.85	349.23	348.28	351.72	351.51	351.77	352.73	351.64	349.88	---
28	354.24	355.06	352.26	352.75	350.88	347.70	351.01	351.51	351.16	352.49	352.04	350.75	351.01	---
29	355.67	354.17	351.55	353.18	348.99	348.47	351.58	351.36	352.45	352.66	---	350.02	353.48	---
30	355.43	353.79	351.45	352.73	349.78	350.24	---	351.19	354.18	351.34	---	350.08	353.92	---
31	---	353.36	---	353.29	348.42	---	351.44	---	352.52	351.81	---	350.87	---	---
MEAN	---	354.04	353.42	---	351.61	349.80	---	---	351.80	353.19	351.50	350.33	351.29	---
MAX	---	355.59	355.73	---	353.49	352.76	---	---	354.18	355.50	353.53	353.52	353.92	---
MIN	---	352.14	351.45	---	348.42	347.56	---	---	349.55	350.12	349.96	349.58	349.85	---

Table 2.--Continued

## FRANKLIN COUNTY IRRIGATION DISTRICT SYSTEM

12473560 F.C.I.D. CANAL WASTEWAY AT PASCO, WA.

LOCATION.--Lat  $46^{\circ}15'29''$ , long  $119^{\circ}08'30''$ , in SE $\frac{1}{4}$  sec.14, T.9 N., R.29 E., Franklin County, Hydrologic Unit 17020016, 1,000 ft north of the intersection of Argent Road and Road 40.

GAGE.--Water-stage recorder. Elevation of gage is 420 ft, from topographic map.

REMARKS.--No estimated daily discharges. Records poor. All flow is irrigation waste. The F.C.I.D. system is supplied by two pumping stations which pump from the Columbia River; one is about 5 mi upstream and the second is about 2.5 mi upstream.

EXTREMES.--Maximum discharge, 16 ft<sup>3</sup>/s May 21; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986						1987								
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	1.0	1.7	1.9	1.8	4.6	2.1	1.1	0.00	1.3	3.2	0.74	1.0	0.98	1.3
2	.00	1.2	2.0	1.9	2.7	1.2	2.4	1.3	.00	2.6	2.2	.40	1.1	.88	1.5
3	.00	1.7	.57	1.7	1.7	2.5	4.2	1.2	.00	3.2	2.2	.71	2.1	1.6	1.5
4	.00	2.1	2.4	1.7	2.4	1.4	2.6	2.1	.00	3.5	.26	.92	1.5	1.1	.94
5	.00	1.3	1.6	2.4	1.1	2.0	2.6	1.7	.00	3.1	.96	2.0	1.8	1.2	1.0
6	.00	1.6	1.6	2.7	2.0	2.5	2.3	1.1	.00	3.1	.92	.87	.88	.94	1.0
7	.00	1.5	1.5	1.4	1.7	4.1	2.8	2.2	.00	1.1	.96	.55	1.0	1.4	.30
8	.00	1.1	2.4	1.1	3.1	4.2	3.7	2.5	.00	1.7	.66	1.2	.84	1.8	1.5
9	.00	.44	2.9	.72	1.9	3.7	1.5	2.8	.00	1.4	.75	1.2	1.7	1.1	.97
10	.00	1.2	1.8	1.4	1.3	3.1	1.7	.50	.00	1.0	.69	1.4	1.9	.72	1.1
11	.00	2.0	2.0	1.0	2.5	5.1	.84	2.9	.00	1.6	1.1	.73	1.3	.81	.88
12	.00	2.3	1.4	1.7	1.4	6.1	2.2	3.0	.00	.80	1.7	1.1	.86	1.2	.62
13	.00	2.9	1.8	2.0	1.8	4.4	2.2	2.3	.00	.67	1.1	.50	.88	1.5	1.3
14	.00	1.7	1.0	1.8	1.6	4.2	1.6	1.5	.00	.58	1.4	.96	1.1	1.1	1.1
15	.00	1.6	3.5	1.2	2.1	4.9	2.1	2.3	.00	1.2	1.5	1.4	.70	.78	1.2
16	.00	1.3	3.2	1.2	2.3	5.0	1.8	1.6	.00	1.5	1.4	.84	1.7	.69	.94
17	.00	1.4	1.9	1.5	.46	3.7	2.4	2.0	.00	4.9	.87	1.0	3.0	1.1	.74
18	.00	1.9	2.5	1.4	2.2	3.1	1.4	1.7	.00	7.7	1.1	1.2	4.1	1.1	1.2
19	.00	.96	1.7	1.0	1.7	5.1	1.3	2.1	.00	4.3	.55	1.2	4.7	1.1	.90
20	.00	2.0	2.1	2.0	1.4	1.2	1.8	.00	1.6	2.4	1.1	1.2	1.4	.99	1.2
21	.00	.71	5.7	1.2	1.7	2.9	1.6	.00	6.7	.83	.76	.66	.98	1.4	1.2
22	.00	.69	2.2	2.5	1.5	2.6	1.7	.00	7.4	1.3	.39	.61	.69	1.1	.71
23	.00	.49	1.5	1.4	2.5	2.8	1.9	.00	7.6	.27	1.7	.68	1.5	.36	1.2
24	3.0	1.2	1.3	1.4	2.9	3.5	1.5	.00	6.4	.95	1.6	.90	.93	.74	1.4
25	6.7	1.2	1.6	3.2	1.5	2.9	2.2	.00	5.8	.82	.78	.26	4.6	.41	2.3
26	4.8	1.3	1.2	2.4	2.4	4.2	1.8	.00	5.5	.34	.98	1.2	1.5	.91	1.0
27	4.4	2.4	1.9	1.9	2.0	3.0	1.5	.00	4.2	.28	1.1	1.2	1.8	.96	2.2
28	3.5	1.8	1.5	2.3	1.6	3.3	1.6	.00	6.3	.65	.57	1.3	1.0	1.1	1.0
29	2.4	2.4	1.1	3.3	1.7	3.4	1.5	.00	6.4	.75	.52	.44	1.6	1.6	1.4
30	3.2	1.7	1.3	1.7	2.2	2.3	2.0	.00	4.9	2.8	1.3	1.6	.50	.86	1.1
31	2.0	---	1.8	---	1.8	2.2	---	.00	3.4	---	.96	---	1.4	.73	---
TOTAL	30.00	45.09	60.67	53.02	58.96	105.2	60.84	35.90	66.20	56.64	35.28	28.97	50.06	32.26	34.70
MEAN	.97	1.50	1.96	1.77	1.90	3.39	2.03	1.16	2.14	1.89	1.14	.97	1.61	1.04	1.16
MAX	6.7	2.9	5.7	3.3	3.1	6.1	4.2	3.0	7.6	7.7	3.2	2.0	4.7	1.8	2.3
MIN	.00	.44	.57	.72	.46	1.2	.84	.00	.00	.27	.26	.26	.50	.36	.30
AC-FT	60	89	120	105	117	209	121	71	131	112	70	57	99	64	69

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12473820 S.C.B.I.D. ELTOPIA BRANCH CANAL ABOVE FALLS, NEAR PASCO, WA.

LOCATION.--Lat 46°20'27", long 118°58'16", in NW<sub>1/4</sub>NW<sub>1/4</sub> sec.20, T.10 N., R.31 E., Franklin County, Hydrologic Unit 17060110, at end of canal, 8 mi northeast of Pasco.

GAGE.--Water-stage recorder. Elevation of gage is 550 ft, from topographic map.

REMARKS.--Missing record not estimated. Available record good. All flow is return and waste from water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs.

EXTREMES.--Maximum discharge observed, 109 ft<sup>3</sup>/s Aug. 31; there is flow only during irrigation season.

MEAN DISCHARGE (CUBIC FEET PER SECOND)														
1986					1987									
DAY	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
1		0.00	32	23	12	42	13	71	28	60				
2		.00	29	18	12	45	12	53	23	60				
3		.00	24	19	18	53	26	41	21	60				
4		.00	28	29	18	64	15	34	28	59				
5		.00	24	22	16	68	10	28	32	58				
6		.00	23	20	20	61	26	34	28	29				
7		.00	23	23	45	49	22	43	19	5.2				
8		.00	17	21	54	26	19	47	10	.71				
9		.00	16	23	40	33	33	36	7.5	.14				
10		.00	12	32	25	46	48	24	11	.00				
11		.00	14	36	21	43	33	35	16	.00				
12		.00	18	26	19	53	23	40	22	.00				
13		.00	22	5.7	21	64	27	48	26	.00				
14		.00	24	5.0	27	54	39	49	28	.00				
15		.00	19	10	26	26	39	43	21	.00				
16		.00	19	20	24	20	53	29	20	.00				
17		.00	23	20	25	40	63	29	24	.00				
18		.00	20	21	36	38	49	30	31	.00				
19		.00	20	22	32	32	23	32	40	.00				
20		.00	29	16	26	43	33	36	43	.00				
21		.00	23	25	22	36	38	38	50	.00				
22		.00	8.7	40	24	18	33	36	67	.00				
23		.00	14	45	27	18	44	29	75	.00				
24		.00	17	48	12	22	65	27	66	.00				
25		.00	18	52	6.2	9.7	51	27	65	.00				
26	0.00	13	20	20	5.2	31	38	32	64	.00				
27	.00	63	31	8.5	23	52	37	30	65	.00				
28	.00	63	25	8.5	41	47	35	30	64	.00				
29	---	57	19	12	47	41	46	32	64	.00				
30	---	53	21	17	47	36	77	25	63	.00				
31	---	34	---	14	---	20	85	---	61	---				
TOTAL		283.00	632.7	701.7	771.4	1,230.7	1,155	1,088	1,182.5	332.05				
MEAN		9.13	21.1	22.6	25.7	39.7	37.3	36.3	38.1	11.1				
MAX		63	32	52	54	68	85	71	75	60				
MIN		.00	8.7	5.0	5.2	9.7	10	24	7.5	.00				
AC-FT		561	1,250	1,390	1,530	2,448	2,290	2,660	2,350	659				

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12473860 S.C.B.I.D. WASTE WATER DITCH NO.1 NEAR RICHLAND, WA.

LOCATION.--Lat  $46^{\circ}20'58''$ , long  $119^{\circ}14'50''$ , in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.13, T.10 N., R.28 E., Franklin County, Hydrologic Unit 17020016, 2,000 ft above mouth, 20 ft east of Road 68, and 3 mi northeast of Richland.

GAGE.--Staff gage. Elevation of gage is 480 ft, from topographic map.

REMARKS.--Discharge for days with no record not estimated. Available record poor. Flow is return and waste from water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs.

EXTREMES.--Maximum discharge observed,  $12 \text{ ft}^3/\text{s}$  June 6, 1986; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986							1987					
DAY	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	0.00	1.2	7.8	5.2	5.9	3.3	1.6						
2	12	1.4	6.2	4.9	5.5	3.0	1.5						
3	1.5	1.2	9.5	7.8	5.8	2.7	1.5						
4	1.5	1.8	7.8	7.0	6.2	2.4	1.5						
5	1.5	2.4	7.0	6.2	6.2	2.1	1.4						
6	1.5	2.0	12	5.7	6.6	1.8	1.4						
7	1.5	1.7	7.4	5.2	5.5	1.2	1.4						
8	1.5	2.4	8.0	4.9	5.9	1.2	1.4						
9	1.5	2.4	8.6	4.6	5.5	1.4	1.3						
10	1.5	.83	5.5	5.2	4.9	2.1	1.3						
11	1.5	1.1	6.6	7.0	4.3	1.8	1.3						
12	1.5	1.4	6.6	7.8	4.6	1.8	1.2						
13	1.5	.52	7.0	7.0	4.6	1.9	1.2						
14	1.5	4.6	5.5	6.2	4.6	2.1	1.2						
15	1.5	4.6	6.2	5.5	4.9	1.5	1.1						
16	1.5	4.6	7.0	8.2	5.2	1.7	1.1						
17	1.5	1.2	7.8	7.8	5.0	1.3	1.1						
18	1.5	1.2	7.8	5.9	4.9	1.4	1.0						
19	1.4	1.2	9.8	6.2	5.2	1.2	1.0						
20	1.4	1.4	5.9	6.4	5.2	.90	1.0						
21	1.4	1.7	4.6	6.6	4.9	.83	1.0						
22	1.4	2.4	4.9	7.0	5.2	.47	1.0						
23	1.3	2.4	5.2	5.2	4.2	1.8	.00						
24	1.3	4.6	5.5	6.0	3.4	1.8	.00						
25	1.3	6.4	9.1	7.4	2.7	1.7	.00						
26	1.3	8.2	6.6	5.5	3.4	1.7	.00						
27	1.3	6.2	8.2	5.5	3.4	1.7	.00						
28	1.3	8.2	8.6	5.5	3.4	1.6	.00						
29	1.2	4.6	8.2	7.0	3.9	1.6	.00						
30	1.2	5.4	7.8	6.2	3.9	1.6	.00						
31	---	9.3	---	6.2	3.6	---	.00						
TOTAL	51.90	98.55	218.7	192.8	148.5	51.60	27.50						
MEAN	1.73	3.18	7.29	6.22	4.79	1.72	.89						
MAX	21	9.3	12	8.2	6.6	3.3	1.6						
MIN	.00	.52	4.6	4.6	2.7	.47	.00						
AC-FT	103	195	434	382	295	102	55						

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12473880 S.C.B.I.D. PPL 4.3 WASTEWAY NEAR RICHLAND, WA.

LOCATION.--Lat  $46^{\circ}19'19''$ , long  $119^{\circ}14'08''$ , in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.30, T.10 N., R.29 E., Franklin County, Hydrologic Unit 17020016, 50 ft downstream of headgate, 50 ft west of Richview Drive, and 3 mi northeast of Richland.

GAGE.--Staff gage. Elevation of gage is 500 ft, from topographic map.

REMARKS.--Discharge for days with no record not estimated. Available records poor. Most flow is return and waste from water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs.

EXTREMES.--Maximum discharge observed, 22 ft<sup>3</sup>/s Sept. 23, 1986; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987			
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR			
1		0.00	15	7.0	13	10	13	16								
2	32		13	12	10	11	13	15								
3	14		12	10	9.8	11	10	15								
4	17		12	13	15	8.0	10	16								
5	16		13	13	13	17	12	16								
6	15		12	13	13	15	14	16								
7	14		12	13	14	15	15	17								
8	12		13	13	8.9	14	14	16								
9	11		14	9.9	12	13	13	15								
10	10		12	9.7	19	13	13	14								
11	11		12	10	16	12	12	14								
12	13		20	12	12	12	12	13								
13	11		15	13	10	7.9	12	12								
14	9.0		10	13	7.7	8.2	9.8	11								
15	11		6.0	13	9.5	9.4	11	11								
16	11		9.0	19	9.0	9.0	12	12								
17	12		13	13	9.5	9.0	6.4	8.0								
18	13		12	16	8.7	12	11	9.0								
19	10		11	16	5.6	13	11	10								
20	10		12	14	5.0	14	11	11								
21	11		13	13	4.6	7.6	11	12								
22	12		11	13	4.3	9.3	12	12								
23	13		12	12	4.3	10	22	.00								
24	15		11	12	4.5	10	19	.00								
25	13		9.0	9.6	3.9	14	15	.00								
26	17		8.0	11	6.1	12	10	.00								
27	16		8.0	11	6.0	11	11	.00								
28	15		11	11	12	9.9	11	.00								
29	14		10	10	8.2	9.9	11	.00								
30	13		11	14	8.3	13	11	.00								
31	---		7.0	---	9.4	13	---	.00								
TOTAL	391.00	358.0	369.2	292.3	353.2	368.2	291.00									
MEAN	13.0	11.5	12.3	9.43	11.4	12.3	9.39									
MAX	32	20	19	19	17	22	17									
MIN	.00	6.0	7.0	3.9	7.6	6.4	.00									
AC-FT	776	710	732	580	701	730	577									

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12473900 S.C.B.I.D. PASCO WASTEWAY NEAR RICHLAND, WA.

LOCATION.--Lat  $46^{\circ}22'40''$ , long  $119^{\circ}15'18''$ , in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.1, T.10 N., R.28 E., Franklin County, Hydrologic Unit 17020016, at head of wasteway, 3 mi northeast of north boundary of Richland.

GAGE.--Water-stage recorder. Elevation of gage is 500 ft, from topographic map.

REMARKS.--No estimated daily discharge. Records poor. Flow is return and waste from water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam.

The water is distributed through a complicated network of canals and reservoirs.

EXTREMES.--Maximum daily discharge,  $114 \text{ ft}^3/\text{s}$  Oct. 22, 1986; no flow most days between December and mid-March each year.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987		
DAY	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	MAR	APR			
1	0.00	6.7	81	59	58	46	34	58	44	94	0.00	53			
2	.00	.51	57	54	70	49	34	53	46	97	.00	52			
3	.00	.00	49	60	58	52	33	55	43	94	.00	43			
4	.00	.00	47	53	70	58	38	50	40	82	.00	43			
5	.00	.00	41	59	52	67	33	52	43	81	.00	51			
6	.00	.00	61	77	37	59	37	69	42	86	.00	49			
7	.00	.10	57	77	40	57	34	60	40	95	.00	45			
8	.00	.38	48	65	41	49	37	40	28	93	.00	56			
9	.00	.68	43	74	39	35	48	38	30	89	.00	58			
10	.00	.18	67	71	40	45	50	39	20	91	.00	51			
11	.00	.00	57	72	44	50	53	36	29	91	.00	48			
12	.00	.00	53	78	36	65	50	43	38	88	.00	45			
13	.00	.00	54	63	39	72	52	55	40	83	.00	50			
14	.00	.00	55	58	53	57	56	48	35	82	.00	45			
15	.00	.00	45	58	48	41	58	61	38	81	.00	36			
16	.00	.00	52	55	57	47	55	71	50	80	.00	49			
17	.00	.00	43	49	74	49	49	60	51	82	.00	68			
18	.00	.00	34	49	52	48	55	56	49	80	25	81			
19	.00	.00	45	53	57	51	44	42	49	77	88	63			
20	.00	.00	49	58	48	51	49	46	54	80	79	47			
21	.00	.00	50	66	57	51	62	52	61	78	79	52			
22	.00	1.4	55	72	63	52	65	56	114	81	92	51			
23	.00	17	57	60	59	59	57	61	111	79	98	41			
24	.00	27	51	59	52	51	60	55	89	68	98	39			
25	1.5	28	47	61	44	53	65	54	89	84	80	---			
26	5.8	36	54	43	43	53	60	58	90	81	78	---			
27	6.4	46	53	35	42	49	45	63	94	36	89	---			
28	13	54	62	40	51	49	31	68	94	9.1	66	---			
29	---	63	55	41	69	45	31	75	92	6.7	64	---			
30	---	78	52	36	57	50	41	62	94	.00	49	---			
31	---	83	---	48	---	37	46	---	91	---	46	---			
TOTAL	26.70	441.95	1,1574	1,803	1,550	1,597	1,462	1,636	1,828	2,248.80	1,031.00	---			
MEAN	.95	14.3	52.5	58.2	51.7	51.5	47.2	54.5	59.0	75.0	33.3	---			
MAX	13	83	81	78	74	72	65	75	114	97	98	---			
MIN	.00	.00	34	35	36	35	31	36	20	.00	.00	---			
AC-FT	53	877	3,120	3,580	3,070	3,170	2,900	3,250	3,630	4,460	2,040	---			

Table 2.--Continued

## KENNEWICK IRRIGATION DISTRICT SYSTEM

12509612 K.I.D. BADGER WEST LATERAL AT HEAD NEAR KIONA, WA.

LOCATION.--Lat  $46^{\circ}12'46''$ , long  $119^{\circ}21'38''$ , in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec. 6, T.8 N., R.28 E., Benton County, Hydrologic Unit 1703003, 1 mi north of Badger siding, 6 mi southeast of Kiona, at head of lateral.

GAGE.--Staff gage. Elevation of gage is 690 ft, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 24, 26, Oct. 16, 1986, Mar. 19-23, 28, 29, Apr. 3-6, 1987. Records fair.

All flow is diversion for irrigation from the K.I.D. main canal, which in turn is diversion from the Yakima River at Prosser, with the K.I.D. system beginning at Chandler.

EXTREMES.--Maximum daily discharge,  $7.8 \text{ ft}^3/\text{s}$  Aug. 17-27; no flow Oct. 9, 1986, and Mar. 18-23, 1987; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987			
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR		
1	0.00	1.3	6.4	2.4	3.1	6.8	6.0	0.68					0.00	0.12		
2	.00	1.3	6.4	2.4	1.7	6.0	6.0	.68					.00	.12		
3	.00	1.0	6.8	2.4	1.7	6.0	6.0	.68					.00	.12		
4	.00	1.1	6.8	4.4	1.3	6.8	6.0	.68					.00	.12		
5	.00	1.0	6.8	4.9	2.1	6.8	6.0	.68					.00	.12		
6	.00	1.0	6.8	4.9	2.1	6.8	6.0	.68					.00	.12		
7	.00	1.2	6.8	4.4	2.1	6.8	6.0	.68					.00	2.5		
8	.00	1.3	5.7	4.4	3.1	6.8	6.0	.68					.00	2.4		
9	.00	1.2	5.7	4.9	4.9	6.8	6.0	.00					.00	2.4		
10	.00	1.2	5.5	4.9	4.9	6.8	6.0	.49					.00	2.4		
11	.00	3.0	5.5	4.4	4.9	6.4	6.0	.50					.00	2.4		
12	.00	2.1	5.7	4.4	5.8	6.8	6.0	1.2					.00	2.4		
13	.00	3.6	5.7	6.6	5.8	6.8	6.0	4.0					.00	2.4		
14	.00	2.2	5.7	6.6	4.9	6.8	6.0	4.9					.00	2.2		
15	.00	2.2	5.7	6.6	4.9	6.8	6.0	4.9					.00	---		
16	.00	2.2	2.8	6.6	4.9	6.8	6.0	2.4					.00	---		
17	.00	2.7	2.7	6.6	4.9	7.8	6.0	.00					.50	---		
18	.00	2.7	2.4	6.6	4.9	7.8	6.0	.00					.00	---		
19	.00	4.4	2.0	5.8	4.9	7.8	6.0	.00					.00	---		
20	.00	4.4	2.0	5.8	4.9	7.8	6.0	.00					.00	---		
21	.00	4.4	2.0	6.0	4.9	7.8	6.0	.00					.00	---		
22	.00	5.1	2.0	6.0	4.9	7.8	6.0	.00					.00	---		
23	.00	5.7	2.0	6.0	4.9	7.8	4.9	.00					.00	---		
24	.40	6.4	1.6	3.8	4.9	7.8	4.9	.00					.25	---		
25	.70	6.4	1.8	3.0	4.9	7.8	.77	.00					.19	---		
26	.50	5.5	2.1	3.1	4.9	7.8	.68	.00					.12	---		
27	.33	5.5	2.7	3.1	4.9	7.8	.68	.00					.19	---		
28	.41	6.4	2.4	3.1	4.9	5.0	.68	.00					.15	---		
29	.33	6.2	2.4	3.1	6.8	6.4	.68	.00					.11	---		
30	.33	6.4	2.4	3.1	6.8	6.0	.68	.00					.07	---		
31	.33	---	2.4	---	6.8	6.0	---	.00					.12	---		
TOTAL	3.33	99.1	127.7	140.3	137.4	216.0	145.97	23.83					1.70	---		
MEAN	.11	3.30	4.12	4.68	4.43	6.97	4.87	.77					.05	---		
MAX	.70	6.4	6.8	6.6	6.8	7.8	6.0	4.9					.50	---		
MIN	.00	1.0	1.6	2.4	1.3	5.0	.68	.00					.00	---		
AC-FT	6.6	197	253	278	273	428	290	47					3.4	---		

Table 2.--Continued

## KENNEWICK IRRIGATION DISTRICT SYSTEM

12509614 K.I.D. BADGER EAST LATERAL AT HEAD NEAR KIONA, WA.

LOCATION.--Lat 46°12'44", long 119°21'36", in NE<sub>1/4</sub>NW<sub>1/4</sub> sec. 6, T. 8 N., R. 28 E., Benton County, Hydrologic Unit 17030003, 1 mi north of Badger siding, 6 mi southeast of Kiona, at head of lateral.

GAGE.--Staff gage. Elevation of gage is 690 ft, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 24, 26, Oct. 16, 1986; Mar. 19-22, 1987. Records fair. All flow is diversion for irrigation from the K.I.D. main canal, which in turn is diversion from the Yakima River at Prosser, with the K.I.D. system beginning at Chandler.

EXTREMES.--Maximum daily discharge, 46 ft<sup>3</sup>/s July 20, 1987; no flow Apr. 19-23, 1987; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987			
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR		
1	0.00	12	30	39	38	32	27	14					0.00	15		
2	.00	9.3	32	37	38	30	27	14					.00	17		
3	.00	9.3	35	39	38	30	27	14					.00	19		
4	.00	11	35	38	40	30	28	14					.00	18		
5	.00	12	36	37	40	30	27	14					.00	18		
6	.00	12	35	31	42	32	30	14					.00	19		
7	.00	16	34	40	32	33	30	15					.00	26		
8	.00	21	31	40	35	36	29	15					.00	23		
9	.00	25	28	35	31	34	28	17					.00	29		
10	.00	22	30	37	31	36	27	16					.00	24		
11	.00	22	30	36	30	36	27	17					.00	26		
12	.00	16	32	35	28	36	26	19					.00	22		
13	.00	16	28	32	28	36	25	18					.00	22		
14	.00	16	28	32	28	39	25	16					.00	26		
15	.00	18	27	32	30	41	25	16					.00	---		
16	.00	18	31	32	29	42	20	8.0					.00	---		
17	.00	23	31	32	30	41	17	.00					8.5	---		
18	.00	24	29	32	31	41	19	.00					.20	---		
19	.00	24	29	32	42	41	20	.00					.00	---		
20	.00	24	33	32	46	42	19	.00					.00	---		
21	.00	26	35	33	32	44	22	.00					.00	---		
22	.00	28	31	34	33	44	22	.00					.00	---		
23	.00	32	28	33	34	43	22	.00					.00	---		
24	3.0	33	26	33	36	43	23	.00					6.8	---		
25	6.0	36	26	34	36	41	20	.00					7.2	---		
26	5.7	39	26	36	36	41	18	.00					7.2	---		
27	5.4	41	27	33	36	41	16	.00					7.4	---		
28	5.5	34	23	34	36	40	16	.00					7.1	---		
29	5.5	33	33	36	32	32	16	.00					7.3	---		
30	5.5	31	35	35	36	27	13	.00					8.5	---		
31	5.5	---	39	---	35	27	---	.00					12	---		
TOTAL	42.10	683.6	953	1,041	1,069	1,141	691	241.00					72.20	---		
MEAN	1.36	22.8	30.7	34.7	34.5	36.8	23.0	7.77					2.33	---		
MAX	6.0	41	39	40	46	44	30	19					12	---		
MIN	.00	9.3	23	31	28	27	13	.00					.00	---		
AC-FT	84	1360	1,890	2,060	2,120	2,260	1,370	478					143	---		

Table 2.--Continued

## KENNEWICK IRRIGATION DISTRICT SYSTEM

12509620 K.I.D. CANAL AT BADGER CANYON ROAD NEAR KIONA, WA.

LOCATION.--Lat 46°11'55", long 119°21'53", in NW<sub>1/4</sub>NW<sub>1/4</sub> sec.7, T.8 N., R.28 E., Benton County, Hydrologic Unit 17030003, at county road crossing, 0.4 mi southwest of Badger siding, 7 mi southeast of Kiona, at canal mile 15.4.

GAGE.--Staff gage. Elevation of gage is 700 ft, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 17-24, 26, Oct. 16, 1986; Mar. 18-22, 1987. Records fair, except those for Mar. 17 - Apr. 10, 1986; and Mar. 17 - Apr. 14, 1987, which are poor. All flow is diversion for irrigation from the Yakima River at Prosser, with the K.I.D. system beginning at Chandler. There are two laterals and numerous turnouts above the gage.

EXTREMES.--Maximum daily discharge, 230 ft<sup>3</sup>/s Sept. 3, 1986; no flow Mar. 25, 1986 and Mar. 19-23, 1987; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

DAY	1986						1987							
	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	0.00	75	172	214	199	201	217	149					0.00	109
2	.00	79	171	212	198	201	224	147					.00	126
3	.00	79	174	222	197	201	230	145					.00	126
4	.00	74	174	214	197	201	208	143					.00	122
5	.00	72	174	214	197	199	198	143					.00	121
6	.00	70	177	212	197	200	204	141					.00	120
7	.00	48	177	212	196	200	207	125					.00	134
8	.00	57	178	210	195	200	208	121					.00	146
9	.00	94	182	210	193	196	218	120					.00	154
10	.00	133	181	207	191	193	209	120					.00	159
11	.00	141	183	208	194	194	205	124					.00	167
12	.00	154	187	208	194	193	205	124					.00	168
13	.00	155	193	210	194	193	197	126					.00	168
14	.00	151	195	210	197	187	197	130					.00	159
15	.00	146	189	204	191	188	195	128					.00	---
16	.00	145	187	204	197	187	201	64					.00	---
17	10	155	187	206	197	188	191	.00					62	---
18	60	154	191	205	197	188	185	.00					15	---
19	90	151	191	204	205	188	178	.00					.00	---
20	90	151	189	203	194	189	182	.00					.00	---
21	115	150	189	207	194	191	178	.00					.00	---
22	145	173	186	206	193	190	179	.00					.00	---
23	150	166	190	205	189	191	174	.00					.00	---
24	115	161	193	207	189	190	177	.00					81	---
25	.00	173	196	207	189	192	161	.00					82	---
26	45	174	196	203	189	191	172	.00					81	---
27	83	176	201	201	194	191	161	.00					81	---
28	93	170	193	199	195	200	158	.00					81	---
29	93	172	192	199	191	207	159	.00					79	---
30	93	171	198	199	193	218	150	.00					79	---
31	84	---	215	---	196	218	---	.00					99	---
TOTAL	1,266.00	3,970	5,801	6,222	6,032	6,066	5,728	2,050.00					740.00	---
MEAN	40.8	132	187	207	195	196	191	66.1					23.9	---
MAX	150	176	215	222	205	218	230	149					99	---
MIN	.00	48	171	199	189	187	150	.00					.00	---
AC-FT	2,510	7,870	11,510	12,340	11,960	12,030	11,360	4,070					1,470	---

Table 2.--Continued

## KENNEWICK IRRIGATION DISTRICT SYSTEM

12509638 K.I.D. CANAL ABOVE SIPHON AT CLODFELTER ROAD, NEAR RICHLAND, WA.

LOCATION.--Lat  $46^{\circ}11'20''$ , long  $119^{\circ}15'14''$ , in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.12, T.8 N., R.28 E., Benton County, Hydrologic Unit 7030003, 150 ft above entrance to siphon across Coyote Canyon, 1 mi south of south boundary of Richland.

GAGE.--Water-stage recorder. Elevation of gage is 690 ft, from topographic map.

REMARKS.--Estimated daily discharges: Sept. 18 to Oct. 7, 1986. Records good except those for estimated days, which are fair. All flow is diversion for irrigation from the Yakima River at Prosser, with the K.I.D. system beginning at Chandler. There are two laterals and numerous turnouts above the gage.

EXTREMES.--Maximum discharge,  $235 \text{ ft}^3/\text{s}$  June 9, 1986; no flow Mar. 22, 1987; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

DAY	1986												1987			
	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR		
1	0.00	83	161	203	183	189	206	140					0.00	76		
2	.00	93	160	195	177	187	211	140					.00	103		
3	.00	92	167	209	176	185	214	135					.00	95		
4	.00	89	169	194	180	183	193	135					.00	94		
5	.00	85	169	187	182	172	185	130					.00	95		
6	.00	77	170	187	181	172	191	130					.00	95		
7	.00	81	169	189	180	184	195	120					.00	106		
8	.00	60	169	201	177	181	196	115					.00	132		
9	.00	100	172	201	171	178	202	114					.00	145		
10	.00	122	170	189	169	177	192	112					.00	154		
11	.00	127	172	189	173	176	187	115					.00	167		
12	.00	139	179	189	173	173	185	118					.00	165		
13	.00	135	191	195	174	176	172	116					.00	160		
14	.00	128	185	195	177	170	168	118					.00	152		
15	.00	125	176	195	176	171	174	109					.00	---		
16	.00	131	173	198	176	170	181	15					.00	---		
17	.00	135	174	198	178	170	173	1.1					1.6	---		
18	30	136	178	196	181	170	165	.43					3.8	---		
19	89	133	176	195	191	169	160	.37					2.5	---		
20	95	131	171	195	173	170	160	.27					1.0	---		
21	103	134	171	199	172	173	160	.00					.28	---		
22	150	149	171	198	170	170	160	.00					.00	---		
23	154	145	177	196	169	169	155	.00					2.4	---		
24	149	141	178	195	169	167	155	.00					25	---		
25	31	154	181	192	168	172	150	.00					64	---		
26	1.6	162	178	189	171	174	150	.00					81	---		
27	55	168	186	186	176	186	145	.00					79	---		
28	102	164	177	179	178	191	145	.00					80	---		
29	97	164	168	179	173	198	140	.00					79	---		
30	95	163	174	182	178	204	155	.00					79	---		
31	88	---	201	---	184	204	---	.00					80	---		
TOTAL	1,239.60	3,746	5,413	5,795	5,456	5,531	5,225	1,864.17					578.58	---		
MEAN	40.0	125	175	193	176	178	174	60.1					18.7	---		
MAX	154	168	201	209	191	204	214	140					81	---		
MIN	.00	60	160	179	168	167	140	.00					.00	---		
AC-FT	2,460	7430	10740	11490	10820	10970	10360	3700					1,150	---		

Table 2.--Continued

## KENNEWICK IRRIGATION DISTRICT SYSTEM

12509640 AMON WASTEWAY BELOW K.I.D. AMON PUMPING STATION, NEAR KENNEWICK, WA.

LOCATION.--Lat 46°11'31", long 119°14'21", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.7, T.8 N., R.29 E., Benton County, Hydrologic Unit 17030003, 300 ft southwest of Amon pumping station, 1/2 mi west of west boundary of Kennewick.

GAGE.--Water-stage recorder. Elevation of gage is 600 ft, from topographic map.

REMARKS.--No estimated daily discharges. Records good. All flow is turned into the wastewater from two locations; a gate above a siphon which feeds the Amon pumping station, and a gate at the pumping station. Water is supplied by a diversion from the Yakima River at Prosser, with the K.I.D. system beginning at Chandler. There are two laterals and numerous turnouts between Chandler and the pumping station.

EXTREMES.--Maximum discharge, 149 ft<sup>3</sup>/s Mar. 24, 1986; no flow Oct. 19, 1986 and Mar. 22, 1987; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

DAY	1986												1987			
	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR		
1	0.00	49	31	23	31	46	65	79					0.00	49		
2	.00	46	29	18	31	41	70	87					.00	59		
3	.00	42	34	24	38	39	80	78					.00	51		
4	.00	38	36	37	51	33	65	76					.00	52		
5	.00	36	40	24	58	30	52	71					.00	42		
6	.00	32	46	24	54	26	55	65					.00	42		
7	.00	21	51	28	45	27	58	50					.00	41		
8	.00	15	50	44	41	24	63	45					.00	45		
9	.00	21	49	41	45	23	66	42					.00	42		
10	.00	38	49	21	51	22	65	42					.00	45		
11	.00	45	53	26	52	23	63	44					.00	52		
12	.00	51	59	28	51	21	68	43					.00	54		
13	.00	51	72	28	48	23	65	41					.00	49		
14	.00	46	71	31	52	17	65	42					.00	43		
15	.00	42	55	39	53	15	64	44					.00	---		
16	.00	42	41	57	56	17	78	17					.00	---		
17	.00	42	38	36	59	16	72	1.2					.62	---		
18	33	43	38	46	50	17	67	.07					3.6	---		
19	84	38	37	49	45	17	61	.00					2.4	---		
20	80	33	36	47	33	18	63	.08					.99	---		
21	83	21	44	48	29	26	62	.00					.07	---		
22	130	29	47	47	29	27	67	.00					.00	---		
23	135	28	52	43	29	24	66	.00					3.1	---		
24	140	21	52	38	28	22	80	.00					46	---		
25	49	28	48	36	27	24	78	.00					58	---		
26	1.7	34	46	37	29	28	83	.00					53	---		
27	42	34	45	31	31	39	77	.00					49	---		
28	62	34	30	29	37	45	75	.00					48	---		
29	61	34	18	33	36	57	73	.00					48	---		
30	61	35	19	32	37	66	88	.00					41	---		
31	56	---	24	---	45	66	---	.00					49	---		
TOTAL	1,017.70	1,069	1,340	1,045	1,302	919	2,054	867.35					402.78	---		
MEAN	32.8	35.6	43.2	34.8	42.0	29.6	68.5	28.0					13.0	---		
MAX	140	51	72	57	59	66	88	87					58	---		
MIN	.00	15	18	18	27	15	52	.00					.00	---		
AC-FT	2,020	2,120	2,660	2,070	2,580	1,820	4,070	1,720					799	---		

Table 2.--Continued

KENNEWICK IRRIGATION DISTRICT SYSTEM  
12509650 K.I.D. HIGHLAND FEEDER CANAL AT HEAD, NEAR KENNEWICK, WA.

LOCATION.--Lat  $46^{\circ}11'34''$ , long  $119^{\circ}14'19''$ , in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 7, T.8 N., R.29 E., Benton County, Hydrologic Unit 17030003, at head of canal, 1/2 mi west of west boundary of Kennewick.

PERIOD OF RECORD.--March 1986 to April 1987.

GAGE.--Staff gage. Elevation of gage is 620 ft, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 19, 22-26, May 23, Aug. 16-19, Sept. 3-5, 1986, Apr. 3, 1987. Records fair. All flow is diversion for irrigation from the Amon pumping station, which distributes water to two other canals and one wastewater. The pumping station is supplied by diversion from the Yakima River at Prosser, with the K.I.D. system beginning at Chandler. There are two laterals and numerous turnouts between Chandler and the pumping station.

EXTREMES.--Maximum daily discharge,  $81 \text{ ft}^3/\text{s}$  May 29, 30, 1987; no flow Mar. 25, 26, 1986; there is flow only during irrigation season.

MEAN DISCHARGE (CUBIC FEET PER SECOND)

DAY	1986												1987			
	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR		
1	0.00	22	59	80	68	70	64	30					0.00	13		
2	.00	27	57	75	62	71	66	30					.00	16		
3	.00	27	57	71	58	71	66	32					.00	14		
4	.00	27	57	67	54	74	65	32					.00	12		
5	.00	27	55	69	48	74	64	32					.00	17		
6	.00	27	51	67	48	75	64	39					.00	16		
7	.00	34	51	66	58	75	61	39					.00	22		
8	.00	39	55	66	60	75	62	39					.00	32		
9	.00	41	59	67	62	74	62	38					.00	39		
10	.00	42	58	68	55	74	59	36					.00	35		
11	.00	39	54	71	58	72	59	35					.00	35		
12	.00	39	54	71	58	74	57	35					.00	35		
13	.00	39	50	73	58	74	56	37					.00	39		
14	.00	42	54	73	59	74	51	37					.00	47		
15	.00	41	62	67	59	75	51	41					.00	---		
16	.00	45	64	70	56	75	50	.00					.00	---		
17	.00	45	64	68	56	74	49	.00					.00	---		
18	.00	45	71	60	64	73	47	.00					.00	---		
19	4.0	50	72	67	65	72	47	.00					.00	---		
20	11	52	62	69	72	72	47	.00					.00	---		
21	13	59	56	64	74	72	47	.00					.00	---		
22	10	56	56	68	70	70	47	.00					.00	---		
23	10	56	54	72	71	70	42	.00					.00	---		
24	4.0	56	51	75	71	70	35	.00					.00	---		
25	.00	53	58	74	72	72	33	.00					.00	---		
26	.00	51	64	66	70	70	33	.00					10	---		
27	14	54	72	71	70	70	33	.00					10	---		
28	16	53	79	65	68	68	33	.00					10	---		
29	16	56	81	66	68	64	33	.00					10	---		
30	16	58	81	68	70	63	30	.00					19	---		
31	20	---	77	---	59	64	---	.00					12	---		
TOTAL	134.00	2,302	1,895	2,074	1,941	2,221	1,513	532.00					71.00	---		
MEAN	4.32	43.4	61.1	69.1	62.6	71.6	50.4	17.2					2.29	---		
MAX	20	59	81	80	74	75	66	41					19	---		
MIN	.00	22	50	60	48	63	30	.00					.00	---		
AC-FT	266	2,580	3,760	4,110	3,850	4,410	3,000	1,060					141	---		

Table 2.--Continued

## KENNEWICK IRRIGATION DISTRICT SYSTEM

12509666 K.I.D. HIGHLIGHT CANAL DUMP TO CORPS DRAIN, NEAR KENNEWICK, WA.

LOCATION.--Lat 46°09'46", long 119°06'06", in SW<sub>1/4</sub>NE<sub>1/4</sub> sec.19, T.8 N., R.30 E., Benton County, Hydrologic Unit 17020016, at private road crossing,  $\frac{1}{4}$  mi west of South Oak St., in Kennewick.

GAGE.--Staff gage. Elevation of gage is 540 ft, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 21-24, 26-31, Apr. 5-9, 20, May 16, 18, June 28, July 4, 27, Sept. 21, 1986.

Records poor. All flow is waste from water diverted for irrigation from the K.I.D. Highland Feeder Canal. The source of the water is diversion from the Yakima River at Prosser, with the K.I.D. system beginning at Chandler.

EXTREMES.--Maximum daily discharge, 8.8 ft<sup>3</sup>/s June 29, 1986; no flow Mar. 26, 27, 1986, Apr. 5, 1987; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

DAY	1986												1987			
	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR		
1	0.00	3.2	2.6	5.1	3.1	6.9	5.7	4.1					0.00	1.3		
2	.00	3.1	2.9	5.0	2.8	6.9	5.4	3.2					.00	.87		
3	.00	6.9	4.5	4.8	6.1	4.4	4.9	1.4					.00	2.3		
4	.00	5.4	5.2	4.5	6.0	4.5	6.9	3.5					.00	4.6		
5	.00	5.6	5.6	3.8	5.9	5.9	6.3	2.2					.00	.00		
6	.00	5.7	6.6	6.1	5.3	4.5	6.4	4.1					.00	2.8		
7	.00	5.8	6.0	5.3	4.2	5.4	4.1	4.1					.00	.68		
8	.00	6.0	4.5	5.7	5.1	5.8	4.2	5.0					.00	.49		
9	.00	6.2	4.3	4.2	3.0	5.5	6.8	3.9					.00	2.5		
10	.00	6.3	6.3	5.1	4.3	5.7	6.9	5.1					.00	7.0		
11	.00	3.3	6.5	3.1	3.8	5.3	6.4	3.2					.00	3.8		
12	.00	.89	4.9	4.5	4.7	4.3	6.7	5.4					.00	3.8		
13	.00	1.5	5.4	5.9	4.4	5.1	5.3	4.8					.00	1.2		
14	.00	3.6	2.0	4.9	3.8	5.1	5.3	4.3					.00	2.0		
15	.00	3.9	1.3	6.1	4.1	5.1	6.1	2.9					.00	4.8		
16	.00	1.5	3.0	.61	5.2	5.5	7.3	6.7					.00	---		
17	.00	4.0	4.8	4.5	4.1	5.8	6.6	.00					.00	---		
18	.00	1.9	4.5	5.0	2.5	5.2	7.0	.00					.00	---		
19	.00	.89	4.2	3.5	4.8	5.6	5.6	.00					.00	---		
20	.00	2.6	6.3	4.4	5.1	4.5	6.6	.00					.00	---		
21	2.6	4.3	6.5	5.1	3.8	5.2	6.2	.00					.00	---		
22	2.6	4.7	.49	5.1	3.6	2.8	5.7	.00					.00	---		
23	2.6	6.4	7.0	3.6	3.6	5.0	7.2	.00					.00	---		
24	2.6	3.9	4.9	4.2	4.6	4.5	6.6	.00					.00	---		
25	2.6	7.3	4.5	5.2	4.5	4.8	5.4	.00					.00	---		
26	.00	5.6	5.8	3.6	5.8	5.6	5.1	.00					.00	---		
27	.00	5.8	3.1	3.8	5.4	5.4	4.7	.00					.00	---		
28	3.2	5.4	3.7	6.3	5.1	4.2	4.9	.00					2.2	---		
29	3.2	3.3	4.1	8.8	5.1	7.5	4.7	.00					2.8	---		
30	3.2	2.5	3.2	7.6	6.4	5.4	5.1	.00					2.5	---		
31	3.2	---	3.8	---	6.6	6.0	---	.00					2.0	---		
TOTAL	25.80	127.48	138.49	145.41	142.8	163.4	176.1	63.90					9.50	---		
MEAN	.83	4.25	4.47	4.85	4.61	5.27	5.87	2.06					.31	---		
MAX	3.2	7.3	7.0	8.8	6.6	7.5	7.3	6.7					2.8	---		
MIN	.00	.89	.49	.61	2.5	2.8	4.1	.00					.00	---		
AC-FT	51	253	275	288	283	324	349	127					19	---		

Table 2.--Continued

KENNEWICK IRRIGATION DISTRICT SYSTEM  
12509670 K.I.D. DIVISION FOUR CANAL AT HEAD NEAR KENNEWICK, WA.

LOCATION.--Lat  $46^{\circ}11'39''$ , long  $119^{\circ}14'11''$ , in SW $\frac{1}{4}$ NW $\frac{1}{4}$  sec. 7, T.8 N., R.29 E., Benton County, Hydrologic Unit 17030003, at head of canal, 1/2 mi west of west boundary of Kennewick.

PERIOD OF RECORD.--March 1986 to April 1987.

GAGE.--Staff gage. Elevation of gage is 690 ft, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 19, 22-26, May 23, Aug. 16-19, Sept. 3-5, 1986, Apr. 3, 1987. Records fair. All flow is diversion for irrigation from the Amon pumping station, which distributes water to two other canals and one wastewater. The pumping station is supplied by diversion from the Yakima River at Prosser, with the K.I.D. system beginning at Chandler. There are two laterals and numerous turnouts between Chandler and the pumping station.

EXTREMES.--Maximum daily discharge,  $81 \text{ ft}^3/\text{s}$  Aug. 14, 1986; no flow Mar. 25, 26, 1986; there is flow only during irrigation season.

	MEAN DISCHARGE (CUBIC FEET PER SECOND)													
	1986						1987							
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	0.00	11	54	72	70	68	65	30					0.00	19
2	.00	13	50	72	71	70	62	20					.00	22
3	.00	16	51	73	70	73	62	22					.00	23
4	.00	15	51	72	64	73	61	22					.00	24
5	.00	15	50	71	61	74	60	22					.00	25
6	.00	15	51	70	64	77	60	23					.00	29
7	.00	21	50	70	67	77	61	27					.00	34
8	.00	18	51	64	66	77	61	27					.00	39
9	.00	34	51	74	58	77	58	29					.00	43
10	.00	38	50	68	58	77	55	29					.00	47
11	.00	41	51	63	58	77	54	29					.00	47
12	.00	42	47	62	56	77	52	30					.00	46
13	.00	41	47	63	56	78	51	35					.00	49
14	.00	44	47	63	54	81	52	35					.00	48
15	.00	43	51	64	55	80	52	28					.00	---
16	.00	42	55	59	54	80	49	.00					.00	---
17	.00	44	54	63	59	79	49	.00					.00	---
18	.00	43	55	60	60	78	45	.00					.00	---
19	2.0	43	54	60	63	77	45	.00					.00	---
20	12	42	58	61	63	77	46	.00					.00	---
21	11	51	59	62	66	77	45	.00					.00	---
22	8.0	58	59	62	66	76	42	.00					.00	---
23	8.0	58	59	61	64	74	41	.00					.00	---
24	2.0	58	59	66	65	74	38	.00					.00	---
25	.00	57	56	65	67	73	34	.00					13	---
26	.00	55	55	68	65	73	33	.00					12	---
27	12	57	64	68	67	66	32	.00					12	---
28	12	53	67	68	66	66	32	.00					12	---
29	12	49	70	68	66	67	33	.00					12	---
30	12	49	73	70	67	67	33	.00					15	---
31	12	---	68	---	69	65	---	.00					17	---
TOTAL	103.00	1,166	1,717	1,982	1,955	2,305	1,463	408.00					93.00	---
MEAN	3.32	38.9	55.4	66.1	63.1	74.4	48.8	13.2					3.00	---
MAX	12	58	73	74	71	81	65	35					17	---
MIN	.00	11	47	59	54	65	32	.00					.00	---

Table 2.--Continued

## KENNEWICK IRRIGATION DISTRICT SYSTEM

12509674 K.I.D. AMON PUMP LATERAL AT HEAD, NEAR KENNEWICK, WA.

LOCATION.--Lat 46°11'26", long 119°13'12", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.8, T.8 N., R.29 E., Benton County, Hydrologic Unit 17030003, at head of lateral, 1/4 mi east of west boundary of Kennewick.

GAGE.--Staff gage. Elevation of gage is 880 ft, from topographic map.

REMARKS.--Estimated daily discharges: May 23, Aug. 16-19, 1986, Apr. 3, 1987. Records fair. All flow is diversion for irrigation from the Amon pump station, which distributes water to two other canals and one wastewater.

The pumping station is supplied by diversion from the Yakima River at Prosser, with the K.I.D. system beginning at Chandler. There are two laterals and numerous turnouts between Chandler and the pumping station.

EXTREMES.--Maximum daily discharge, 14 ft<sup>3</sup>/s many days in June, July, and August, 1986; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987			
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR		
1	0.00	0.00	6.0	12	12	12	11	2.4					0.00	2.5		
2	.00	.00	7.8	13	12	12	11	2.8					.00	2.9		
3	.00	.00	7.8	13	12	12	11	2.8					.00	2.9		
4	.00	2.3	7.8	13	12	13	11	2.8					.00	2.9		
5	.00	2.9	9.9	14	13	14	11	2.8					.00	2.9		
6	.00	2.9	7.0	13	13	14	11	2.8					.00	4.4		
7	.00	2.9	6.4	14	12	14	11	2.8					.00	6.1		
8	.00	4.3	6.4	14	12	14	11	2.8					.00	7.0		
9	.00	5.0	6.2	14	12	14	11	2.8					.00	7.0		
10	.00	6.5	6.2	13	12	14	11	2.8					.00	7.3		
11	.00	6.3	6.3	13	12	13	11	2.6					.00	7.2		
12	.00	6.5	6.3	13	12	12	9.8	2.6					.00	7.2		
13	.00	6.3	6.8	14	12	12	9.9	2.5					.00	6.7		
14	.00	6.3	6.9	14	13	12	9.8	2.5					.00	7.3		
15	.00	7.3	7.3	14	13	12	8.9	.00					.00	---		
16	.00	8.2	8.1	14	13	12	6.1	.00					.00	---		
17	.00	7.7	8.0	12	13	12	5.7	.00					.00	---		
18	.00	7.7	8.0	12	13	11	5.6	.00					.00	---		
19	.00	8.0	8.1	11	14	11	5.4	.00					.00	---		
20	.00	8.9	8.6	11	13	11	5.3	.00					.00	---		
21	.00	7.7	7.4	11	13	12	5.2	.00					.00	---		
22	.00	7.6	6.8	11	13	12	5.1	.00					.00	---		
23	.00	7.6	7.0	12	13	12	6.0	.00					.00	---		
24	.00	7.6	7.2	12	13	12	4.2	.00					.00	---		
25	.00	8.1	7.0	12	13	11	4.1	.00					.00	---		
26	.00	8.1	7.2	12	13	11	2.8	.00					.00	---		
27	.00	8.1	7.2	12	13	12	2.6	.00					.00	---		
28	.00	8.1	8.4	12	12	12	2.6	.00					.00	---		
29	.00	8.1	9.9	12	12	11	2.4	.00					.00	---		
30	.00	6.3	12	12	12	11	1.9	.00					.00	---		
31	.00	---	12	---	12	11	---	.00					1.7	---		
TOTAL	.00	177.30	238.0	379	389	378	224.4	37.80					1.70	---		
MEAN	.00	5.91	7.68	12.6	12.5	12.2	7.48	1.22					.05	---		
MAX	.00	8.9	12	14	14	14	11	2.8					1.7	---		
MIN	.00	.00	6.0	11	12	11	1.9	.00					.00	---		
AC-FT	.00	352	472	752	772	750	445	75					3.4	---		

Table 2.--Continued

## KENNEWICK IRRIGATION DISTRICT SYSTEM

12509678 K.I.D. DIVISION FOUR CANAL WASTEWAY NEAR MOUTH, NEAR FINLEY, WA.

LOCATION.--Lat 46°06'09", long 118°58'44", in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.7, T.7 N., R.31 E., Benton County, Hydrologic Unit 17070101, about 0.4 mi above mouth, 0.2 mi south of Hover Rd., 3 mi southeast of Finley.

GAGE.--Water-stage recorder. Elevation of gage is 400 ft, from topographic map.

REMARKS.--Estimated daily discharges: Sept. 21 to Oct. 14, and Oct. 17, 1986. Records fair. All flow is waste from the end of Division Four Canal, which in turn is supplied by a diversion from the Yakima River at Prosser, with the K.I.D. system beginning at Chandler.

EXTREMES.--Maximum discharge, 32 ft<sup>3</sup>/s June 10, 1986; no flow Mar. 27, 28, 1986; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987			
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR		
1	0.00	5.0	4.6	2.5	8.5	6.3	9.1	2.0					0.00	4.5		
2	.00	3.7	9.1	2.2	8.7	4.3	10	1.0					.00	3.6		
3	.00	2.8	6.3	5.4	11	5.6	8.6	3.0					.00	5.0		
4	.00	5.4	8.5	6.0	14	6.3	5.4	2.0					.00	5.8		
5	.00	3.5	9.5	3.3	18	6.3	4.3	2.0					.00	6.0		
6	.00	2.4	9.9	8.6	16	5.1	4.7	3.0					.00	7.4		
7	.00	3.1	10	8.5	13	8.3	6.7	1.0					.00	2.8		
8	.00	2.2	11	4.6	11	9.5	8.3	2.0					.00	3.9		
9	.00	.05	9.0	2.4	13	8.6	11	1.0					.00	6.3		
10	.00	5.1	7.5	23	12	5.6	8.5	2.0					.00	9.8		
11	.00	4.2	12	23	9.8	5.1	6.7	5.0					.00	10		
12	.00	8.0	14	11	7.0	7.3	8.0	4.0					.00	9.3		
13	.00	6.1	11	9.3	7.9	6.5	7.5	5.0					.00	8.8		
14	.00	5.7	5.4	14	10	3.8	6.0	8.0					.00	7.2		
15	.00	12	5.6	16	10	6.0	7.3	7.3					.00	5.6		
16	.00	8.7	8.6	6.0	9.4	8.2	10	7.8					.00	---		
17	.00	6.7	5.9	12	7.6	8.3	9.9	2.0					.00	---		
18	.00	6.3	6.4	16	4.8	8.1	11	.00					.00	---		
19	.00	6.7	5.6	11	8.3	7.9	9.4	.00					.00	---		
20	.00	5.2	3.6	8.4	6.8	8.1	9.6	.00					.00	---		
21	3.6	3.1	5.9	10	5.9	6.5	10	.00					.00	---		
22	5.4	5.6	7.6	10	6.3	6.1	12	.00					.00	---		
23	8.5	5.2	7.7	7.1	7.0	8.2	13	.00					.00	---		
24	8.8	3.3	7.5	5.5	7.6	8.5	13	.00					.00	---		
25	4.6	3.6	8.1	6.1	9.3	9.0	9.0	.00					.00	---		
26	.39	10	5.2	6.0	8.9	9.4	5.0	.00					.87	---		
27	.00	14	3.0	7.0	10	10	5.0	.00					4.0	---		
28	.00	13	.58	9.2	10	5.2	5.0	.00					3.0	---		
29	4.8	10	1.9	10	5.6	7.0	5.0	.00					5.6	---		
30	6.4	4.5	2.4	9.5	6.6	9.1	5.0	.00					5.5	---		
31	4.5	---	1.8	---	7.9	10	---	.00					5.2	---		
TOTAL	46.99	175.15	215.18	273.6	291.9	224.2	244.0	58.10					24.17	---		
MEAN	1.52	5.84	6.94	9.12	9.42	7.23	8.13	1.87					.78	---		
MAX	8.8	14	14	23	18	10	13	8.0					5.6	---		
MIN	.00	.05	.58	2.2	4.8	3.8	4.3	.00					.00	---		
AC-FT	93	347	427	543	579	445	484	115					48	---		

Table 2.--Continued

## COLUMBIA IRRIGATION DISTRICT SYSTEM

12511016 C.I.D. CANAL WASTEWAY AT COLUMBIA PARK, AT KENNEWICK, WA.

LOCATION.--Lat  $46^{\circ}13'54''$ , long  $119^{\circ}12'02''$ , in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.28, T.9 N., R.29 E., Benton County, Hydrologic Unit 17020016, 1,000 ft above mouth, at Camp Kiwanis in Columbia Park.

GAGE.--Staff gage. Elevation of gage is 350 ft, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 4-9, 1986. Records poor. All flow is excess water diverted from the C.I.D. main canal. The C.I.D. system is supplied by diversion from the Yakima River at Horn Rapids Dam.

EXTREMES.--Maximum daily discharge, 57 ft<sup>3</sup>/s Apr. 12, 1986; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

DAY	1986							1987					
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	0.00	22	14	10	8.6	0.68	22					0.00	53
2	.00	20	12	11	6.6	.86	19					.00	18
3	.00	22	11	12	2.4	2.8	27					.00	14
4	31	19	10	13	3.5	8.5	20					.00	17
5	31	15	12	15	4.3	8.2	29					.00	16
6	31	19	11	16	4.9	5.0	27					.00	16
7	31	22	11	14	6.6	4.6	22					.00	16
8	31	20	10	13	6.6	.95	23					.00	16
9	31	14	9.1	12	7.4	.75	25					.00	15
10	31	15	8.6	10	7.8	.98	23					.00	18
11	29	14	7.8	10	6.6	22	27					.00	16
12	57	23	6.6	11	5.8	19	28					.00	16
13	30	19	5.9	10	7.4	3.1	27					.00	17
14	42	15	6.6	5.7	4.7	.91	29					.00	18
15	39	18	7.8	6.8	4.3	.99	.00					.00	20
16	32	16	12	11	4.6	6.5	.00					.00	---
17	27	16	7.9	13	4.9	.76	.00					.00	---
18	.00	19	15	12	6.6	.31	.00					.00	---
19	6.6	14	23	11	7.0	.37	.00					.00	---
20	27	19	10	5.7	7.0	.30	.00					.00	---
21	19	37	8.6	9.0	6.6	.24	.00					.00	---
22	13	39	10	6.7	4.9	.18	.00					.00	---
23	17	22	11	4.9	6.2	3.7	.00					.00	---
24	25	20	10	3.8	6.6	1.0	.00					.00	---
25	19	18	9.1	2.3	7.0	8.4	.00					.00	---
26	22	20	8.2	2.3	7.4	3.1	.00					.00	---
27	24	22	7.8	2.3	7.0	2.8	.00				49	---	
28	27	19	8.6	3.5	6.6	2.3	.00				48	---	
29	20	11	9.1	9.0	3.6	1.6	.00				46	---	
30	20	14	10	11	4.9	1.3	.00				44	---	
31	---	11	---	11	4.9	---	.00				50	---	
TOTAL	712.60	594	303.7	288.0	183.4	112.18	348.00				237.00	---	
MEAN	23.8	19.2	10.1	9.29	5.92	3.74	11.2				7.65	---	
MAX	57	39	23	16	8.6	22	29				50	---	
MIN	.00	11	5.9	2.3	2.4	.18	.00				.00	---	
AC-FT	1,410	1,180	602	571	364	223	690				470	---	

Table 2.--Continued

## COLUMBIA IRRIGATION DISTRICT SYSTEM

12511020 C.I.D. CANAL AT GRANT STREET, AT KENNEWICK, WA.

LOCATION.--Lat  $46^{\circ}13'43''$ , long  $119^{\circ}11'33''$ , in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.28, T.9 N., R.29 E., Benton County, Hydrologic Unit 17020016, at vacated Grant Street bridge in Kennewick.

GAGE.--Water-stage recorder. Elevation of gage is 400 ft, from topographic map.

REMARKS.--No estimated daily discharges. Records good. All flow is diversion for irrigation from the Yakima River at Horn Rapids Dam, with one wasteway and several turnouts between the gage and Horn Rapids Dam.

EXTREMES.--Maximum discharge,  $105 \text{ ft}^3/\text{s}$  June 9, 1986; there is flow only during irrigation season.

DAY	MEAN DISCHARGE (CUBIC FEET PER SECOND)												
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	0.00	77	97	89	87	94	67					0.00	61
2	.00	77	97	89	87	95	68					.00	61
3	.00	77	98	89	87	92	68					.00	63
4	.00	77	100	88	87	93	68					.00	65
5	.00	78	103	87	87	94	68					.00	65
6	.00	79	103	87	87	94	69					.00	65
7	.00	79	103	87	87	94	70					.00	70
8	39	79	103	87	87	93	70					.00	75
9	47	79	100	87	87	92	73					.00	77
10	56	79	98	87	89	92	72					.00	77
11	60	79	98	86	90	93	73					.00	77
12	60	80	97	86	89	93	72					.00	77
13	59	79	97	86	89	92	72					.00	77
14	60	79	96	87	90	92	73					.00	77
15	59	80	96	89	90	92	60					.00	77
16	59	79	96	89	91	91	3.5					.00	---
17	59	80	96	89	91	87	1.6					.00	---
18	12	80	95	89	91	87	.93					.00	---
19	35	82	94	89	91	85	.32					.00	---
20	61	82	92	88	91	84	.00					.00	---
21	65	81	92	89	91	83	.00					.00	---
22	69	81	92	89	91	83	.00					.00	---
23	73	81	92	87	92	83	.00					.00	---
24	76	81	91	90	92	81	.00					.00	---
25	76	81	90	89	92	79	.00					.00	---
26	76	81	91	89	92	77	.00					.00	---
27	76	83	90	87	92	75	.00					.00	---
28	76	86	90	87	93	75	.00					.00	---
29	76	90	90	87	93	75	.00					.00	---
30	76	93	90	87	93	72	.00				41	---	
31	---	95	---	87	94	---	.00				58	---	
TOTAL	1,405.00	2,514	2,867	2,723	2,790	2,612	1,049.35					99.00	---
MEAN	46.8	81.1	95.6	87.8	90.0	87.1	33.9					3.19	---
MAX	76	95	103	90	94	95	73					58	---
MIN	.00	77	90	86	87	72	.00					.00	---
AC-FT	2,790	4,990	5,690	5,400	5,530	5,180	2,000					196	---

Table 2.--Continued

## COLUMBIA IRRIGATION DISTRICT SYSTEM

12511030 C.I.D. No. 2 CANAL AT HEAD, AT KENNEWICK, WA.

LOCATION.--Lat 46°12'07", long 119°06'28", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.6, T.8 N., R.30 E., Benton County, Hydrologic Unit 17020016, 500 ft west of Gum St. in Kennewick.

GAGE.--Staff gage. Elevation of gage is 390 ft, from topographic map.

REMARKS.--Estimated daily discharges: Apr.10, Apr. 12 to May 1, May 3-10, Oct. 16, 1986, Apr. 1-3, 1987. All flow is diversion for irrigation from the C.I.D. main canal. The C.I.D. system is supplied by diversion from the Yakima River at Horn Rapids Dam.

EXTREMES.--Maximum daily discharge, 37 ft<sup>3</sup>/s June 19, Aug.11, 1986; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

DAY	1986						1987						
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	0.00	29	32	35	36	36	25					0.00	20
2	.00	29	32	35	36	36	25					.00	20
3	.00	29	33	35	36	34	26					.00	21
4	.00	29	34	36	36	34	26					.00	23
5	.00	29	35	36	36	36	24					.00	23
6	.00	30	35	35	36	35	24					.00	21
7	.00	30	35	35	36	35	26					.00	21
8	.00	30	36	34	36	35	26					.00	25
9	.00	30	35	34	36	35	27					.00	25
10	8.0	30	35	35	35	34	27					.00	26
11	16	27	35	34	37	35	27					.00	26
12	23	28	35	35	36	35	27					.00	26
13	22	28	35	35	36	35	27					.00	26
14	23	28	35	34	36	35	27					.00	23
15	22	28	36	35	36	35	27					.00	24
16	22	28	36	35	35	36	14					.00	---
17	22	29	36	35	35	36	.00					.00	---
18	4.5	31	36	35	35	34	.00					.00	---
19	13	31	37	35	35	34	.00					.00	---
20	23	31	36	34	35	33	.00					.00	---
21	25	34	36	34	36	32	.00					.00	---
22	26	34	36	34	36	33	.00					.00	---
23	28	34	36	33	35	32	.00					.00	---
24	29	33	36	35	35	33	.00					.00	---
25	29	33	35	36	36	30	.00					.00	---
26	29	33	35	35	36	30	.00					.00	---
27	29	33	36	35	35	27	.00					.00	---
28	29	33	36	35	35	26	.00					.00	---
29	29	34	36	35	36	26	.00					.00	---
30	29	33	36	36	36	26	.00					.00	---
31	---	32	---	36	36	---	.00				15	---	
TOTAL	480.50	950	1,057	1,081	1,107	993	405.00					15.00	---
MEAN	16.0	30.6	35.2	34.9	35.7	33.1	13.1					.48	---
MAX	29	34	37	36	37	36	27					15	---
MIN	.00	27	32	33	35	26	.00					.00	---
AC-FT	953	1,880	2,100	2,140	2,200	1,970	803					30	---

Table 2.--Continued

## COLUMBIA IRRIGATION DISTRICT SYSTEM

12511034 C.I.D. No.2 CANAL WASTEWAY, NEAR FINLEY, WA.

LOCATION.--Lat  $46^{\circ}10'55''$ , long  $119^{\circ}01'47''$ , in NW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.14, T.8 N., R.30 E., Benton County, Hydrologic Unit 17070101, 2 mi north of Finley.

GAGE.--Staff gage. Elevation of gage is 360 ft, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 11-13, 22-25, June 11, Oct. 16, 1986, Mar. 31, Apr. 2, 3, 1987. Records poor. All flow is excess water diverted from C.I.D. No. 2 canal. The C.I.D. system is supplied by diversion from the Yakima River at Horn Rapids Dam.

EXTREMES.--Maximum daily discharge, 21 ft<sup>3</sup>/s Aug. 19, 1986; no flow May 4, 5, and June 1, 1986; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986							1987					
DAY	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	0.00	2.4	0.00	3.1	4.1	4.1	4.5					0.00	3.4
2	.00	1.1	.44	3.1	4.1	4.1	3.3					.00	6.0
3	.00	.02	3.0	4.5	4.1	4.1	3.3					.00	9.0
4	.00	.00	5.3	6.3	3.1	4.1	2.4					.00	12
5	.00	.00	3.1	8.5	3.1	4.7	1.8					.00	7.6
6	.00	4.7	5.3	8.5	1.2	5.3	2.4					.00	4.1
7	.00	4.1	5.3	4.2	1.8	5.3	3.3					.00	1.3
8	.00	4.1	8.4	4.1	1.8	4.7	2.4					.00	7.6
9	.00	4.1	4.2	5.0	2.4	4.1	3.3					.00	9.8
10	.00	2.4	4.3	5.0	1.5	4.1	3.4					.00	7.6
11	1.0	4.1	4.6	5.0	3.1	4.1	3.4					.00	7.6
12	2.0	4.3	4.8	5.3	2.4	3.6	3.4					.00	12
13	3.0	2.4	5.3	5.3	1.8	3.1	6.2					.00	7.6
14	3.4	4.1	5.3	5.3	2.9	6.6	6.4					.00	7.6
15	4.5	4.1	5.3	4.5	3.1	5.3	8.1					.00	7.6
16	8.0	4.1	5.3	4.5	4.1	5.3	4.0					.00	7.6
17	8.8	3.1	5.3	5.3	4.1	8.4	.00					.00	---
18	1.5	3.1	5.3	5.0	4.1	5.4	.00					.00	---
19	1.5	4.1	4.7	5.3	21	8.8	.00					.00	---
20	8.0	3.1	4.1	3.1	4.6	5.6	.00					.00	---
21	4.2	4.1	4.1	4.1	4.0	5.6	.00					.00	---
22	1.5	4.3	4.5	3.3	4.1	5.7	.00					.00	---
23	1.5	4.1	5.3	2.9	3.1	4.3	.00					.00	---
24	8.0	3.1	3.3	3.6	3.1	5.0	.00					.00	---
25	8.0	2.4	2.4	3.9	3.1	4.3	.00					.00	---
26	1.0	1.3	3.6	3.1	2.2	7.7	.00					.00	---
27	1.1	.03	4.1	3.1	1.9	5.2	.00					.00	---
28	2.5	2.3	3.9	3.9	2.7	5.1	.00					.00	---
29	2.5	2.4	5.3	3.9	3.1	5.3	.00					.00	---
30	2.1	1.2	4.1	4.1	5.3	6.3	.00					.00	---
31	---	.02	---	4.1	5.3	--	.00					1.7	---
TOTAL	74.10	84.67	129.94	140.9	116.3	155.3	61.60					1.70	---
MEAN	2.47	2.73	4.33	4.55	3.75	5.18	1.99					.05	---
MAX	8.8	4.7	8.4	8.5	21	8.8	8.1					1.7	---
MIN	.00	.00	.00	2.9	1.2	3.1	.00					.00	---
AC-FT	147	168	258	279	231	308	122					3.4	---

Table 2.--Continued

## COLUMBIA IRRIGATION DISTRICT SYSTEM

12511038 C.I.D. No.2 CANAL AT END, NEAR FINLEY, WA.

LOCATION.--Lat 46°09'53", long 119°00'55", in NE<sub>1/4</sub>NE<sub>1/4</sub> sec.23, T.8 N., R.30 E., Benton County, Hydrologic Unit 17070101, 1 mi northeast of Finley.

GAGE.--Water-stage recorder. Elevation of gage is 360 ft, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. All flow is waste from diversion for irrigation.

The C.I.D. system is supplied by diversion from the Yakima River at Horn Rapids Dam.

EXTREMES.--Maximum discharge, 9.0 ft<sup>3</sup>/s May 6 and Oct. 16, 1986; no flow Apr. 13, 17-20, 1986; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986						1987						
DAY	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	0.00	4.2	2.8	4.6	2.4	2.7	6.6					0.00	5.1
2	.00	3.8	3.3	4.6	2.4	2.7	7.5					.00	3.0
3	.00	3.2	3.5	4.6	2.4	2.9	7.9					.00	2.5
4	.00	3.3	3.8	6.0	2.4	2.5	7.6					.00	3.7
5	.00	4.3	3.9	6.4	2.3	2.5	6.5					.00	5.0
6	.00	7.4	4.3	4.8	2.3	2.4	5.7					.00	3.8
7	.00	6.9	3.8	3.9	2.5	2.3	5.2					.00	3.2
8	.00	5.8	3.6	3.8	2.7	2.9	4.8					.00	3.4
9	.00	3.9	4.0	3.1	3.0	3.9	5.6					.00	2.9
10	.00	4.0	3.5	3.2	3.4	4.6	5.7					.00	3.0
11	.59	3.7	3.6	3.3	3.5	4.9	5.4					.00	3.8
12	1.1	3.7	3.3	2.9	2.9	4.9	5.9					.00	3.7
13	2.4	4.2	3.3	3.3	2.9	5.3	6.7					.00	3.3
14	2.8	4.6	3.6	2.9	2.9	5.5	6.7					.00	3.0
15	2.7	3.8	3.9	2.8	2.4	5.5	7.1					.00	2.8
16	2.6	3.8	4.0	2.6	2.6	5.8	2.7					.00	3.1
17	1.6	3.8	3.7	2.7	2.9	6.4	.00					.00	---
18	.00	3.6	3.4	2.6	2.9	6.1	.00					.00	---
19	.00	3.8	3.5	2.7	2.8	6.2	.00					.00	---
20	.92	3.6	3.7	2.6	3.0	6.4	.00					.00	---
21	1.6	4.1	3.8	2.7	3.1	6.7	.00					.00	---
22	2.0	5.0	3.8	2.8	2.9	6.1	.00					.00	---
23	3.1	6.1	4.5	2.7	2.6	6.0	.00					.00	---
24	4.1	5.3	4.0	2.5	2.6	6.5	.00					.00	---
25	4.3	5.1	3.7	2.6	2.5	6.4	.00					.00	---
26	5.5	4.8	3.6	2.9	2.3	6.3	.00					.00	---
27	6.0	3.8	4.3	3.0	2.4	5.5	.00					.00	---
28	5.6	2.8	4.5	3.1	2.3	5.8	.00					.00	---
29	5.8	2.8	5.5	3.1	2.6	5.6	.00					.00	---
30	5.4	2.7	4.7	2.8	3.0	6.3	.00					.00	---
31	---	2.6	---	2.5	2.9	---	.00					1.6	---
TOTAL	58.11	130.5	114.9	104.1	83.8	147.6	97.60					1.60	---
MEAN	1.94	4.21	3.83	3.36	2.70	4.92	3.15					.05	---
MAX	6.0	7.4	5.5	6.4	3.5	6.7	7.9					1.6	---
MIN	.00	2.6	2.8	2.5	2.3	2.3	.00					.00	---
AC-FT	115	259	228	206	166	293	194					3.2	---

Table 2.--Continued

## COLUMBIA IRRIGATION DISTRICT SYSTEM

12511040 C.I.D. No.3 CANAL AT HEAD, AT KENNEWICK, WA.

LOCATION.--Lat 46°12'01", long 119°06'47", in SW<sub>1/4</sub>SW<sub>1/4</sub> sec.6, T.8 N., R.30 E., Benton County, Hydrologic Unit 17020016, 20 ft below headgate for siphon to C.I.D. No. 2 and C.I.D. No.1 canals, 700 ft east of Washington St. in Kennewick.

GAGE.--Staff gage. Elevation of gage is 390 ft, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 9, 11-14, 19, 22, 23, 1986, Apr. 1-3, 1987. Records fair. All flow is diversion for irrigation. The C.I.D. system is supplied by a diversion from the Yakima River at Horn Rapids Dam.

EXTREMES.--Maximum daily discharge, 46 ft<sup>3</sup>/s June 19, 1986; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987			
DAY	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR			
1	0.00	31	38	42	40	32	20					0.00	26			
2	.00	31	36	39	40	31	20					.00	26			
3	.00	32	31	41	41	28	20					.00	26			
4	.00	32	29	42	41	28	21					.00	33			
5	.00	31	37	42	40	31	23					.00	33			
6	.00	31	37	41	37	31	24					.00	33			
7	.00	31	38	40	37	31	23					.00	31			
8	.00	31	37	37	37	30	24					.00	35			
9	14	31	37	35	36	34	26					.00	31			
10	27	31	34	36	37	32	26					.00	29			
11	26	36	38	37	41	32	26					.00	29			
12	26	33	39	35	40	33	26					.00	29			
13	25	33	39	35	40	32	26					.00	29			
14	26	33	40	35	39	31	25					.00	29			
15	32	34	42	37	36	31	26					.00	29			
16	32	34	42	38	37	30	13					.00	29			
17	32	34	42	40	36	31	.00					.00	---			
18	31	33	42	37	35	31	.00					.00	---			
19	15	34	46	35	36	31	.00					.00	---			
20	31	35	40	35	36	28	.00					.00	---			
21	35	43	42	32	38	28	.00					.00	---			
22	29	37	44	36	38	28	.00					.00	---			
23	31	37	40	35	38	25	.00					.00	---			
24	29	38	39	41	38	28	.00					.00	---			
25	33	36	37	41	36	28	.00					.00	---			
26	33	35	37	41	36	29	.00					.00	---			
27	33	29	38	41	34	27	.00					.00	---			
28	31	36	38	41	35	28	.00					.00	---			
29	31	36	42	38	36	28	.00					.00	---			
30	31	37	42	40	37	28	.00					15	---			
31	---	35	---	40	35	---	.00					30	---			
TOTAL	633.00	1,050	1,163	1,185	1,163	895	369.00					45.00	---			
MEAN	21.1	33.9	38.8	38.2	37.5	29.8	11.9					1.45	---			
MAX	35	43	46	42	41	34	26					30	---			
MIN	.00	29	29	32	34	25	.00					.00	---			
AC-FT	1260	2,080	2,310	2,350	2,310	1,780	732					89	---			

Table 2.--Continued

## COLUMBIA IRRIGATION DISTRICT SYSTEM

12511050 C.I.D. No. 1 CANAL AT HEAD, AT KENNEWICK, WA.

LOCATION.--Lat 46°12'03", long 119°06'27", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.6, T.8 N., R.30 E., Benton County, Hydrologic Unit 17020016, 500 ft west of Gum St. in Kennewick.

GAGE.--Staff gage. Elevation of gage is 390 ft, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 10, 12-14, 19, July 26, Oct. 16, 1986, Apr. 1-4, 1987. Records fair.

All flow is diversion for irrigation from C.I.D. No. 2 canal. The C.I.D. system is supplied by diversion from the Yakima River at Horn Rapids Dam.

EXTREMES.--Maximum daily discharge, 18 ft<sup>3</sup>/s July 3-7, 9, 10, 1986; there is flow only during irrigation season.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

DAY	1986						1987						
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	0.00	12	14	14	14	12	11					0.00	7.4
2	.00	11	14	17	13	12	12					.00	7.4
3	.00	11	14	18	13	12	12					.00	7.4
4	.00	11	14	18	13	12	13					.00	6.4
5	.00	11	14	18	13	12	10					.00	6.4
6	.00	11	14	18	13	12	10					.00	9.4
7	.00	11	14	18	13	12	11					.00	9.4
8	.00	11	14	17	13	12	11					.00	9.4
9	.00	11	14	18	12	12	11					.00	9.4
10	3.6	11	14	18	12	12	11					.00	9.4
11	7.3	11	14	17	12	13	11					.00	9.4
12	8.4	11	14	17	12	12	11					.00	9.4
13	8.3	11	14	17	12	12	11					.00	9.4
14	8.4	11	14	17	14	12	12					.00	9.4
15	7.5	11	16	17	13	12	12					.00	9.8
16	7.5	12	15	17	12	11	6.0					.00	---
17	7.5	12	15	16	12	10	.00					.00	---
18	7.5	12	16	16	12	10	.00					.00	---
19	4.9	9.5	16	16	12	10	.00					.00	---
20	9.4	12	16	16	12	10	.00					.00	---
21	9.4	12	14	16	12	11	.00					.00	---
22	12	12	14	16	12	11	.00					.00	---
23	14	12	14	15	12	11	.00					.00	---
24	14	12	14	15	12	11	.00					.00	---
25	16	12	14	15	12	11	.00					.00	---
26	14	12	14	14	12	11	.00					.00	---
27	14	12	16	14	12	12	.00					.00	---
28	14	12	14	14	12	12	.00					.00	---
29	13	12	14	14	12	12	.00					.00	---
30	12	12	14	14	12	12	.00					.00	---
31	---	12	---	14	12	---	.00					5.9	---
TOTAL	212.70	355.5	432	501	384	346	175.00					5.90	---
MEAN	7.09	11.5	14.4	16.2	12.4	11.5	5.65					.19	---
MAX	16	12	16	18	14	13	13					5.9	---
MIN	.00	9.5	14	14	12	10	.00					.00	---
AC-FT	422	705	857	994	762	686	347					12	---

Table 2.--Continued

## KENNEWICK IRRIGATION DISTRICT SYSTEM

12512100 AMON WASTEWAY TRIBUTARY AT MEADOW SPRINGS GOLF COURSE AT RICHLAND, WA

LOCATION.--Lat 46°13'07", long 119°15'20", in NE<sub>1/4</sub> SW<sub>1/4</sub> sec.36, T.9 N., R.28 E., Benton County, Hydrologic Unit 17030003, 200 ft east of Broadmoor St.

GAGE.--Staff gage. Elevation of gage is 470 ft, from topographic map.

REMARKS.--Estimated daily discharges: many days throughout the period. Records fair. Flow is mostly from springs.

EXTREMES.--Maximum daily discharge, 11 ft<sup>3</sup>/s Mar. 19, 1987, from water drained from the K.I.D. main canal; minimum daily, 1.9 ft<sup>3</sup>/s Mar. 1-5, 1986.

	MEAN DISCHARGE (CUBIC FEET PER SECOND)													
	1986						1987							
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	1.9	2.6	3.1	3.6	4.0	3.9	4.1	5.3	5.8	3.8	3.2	3.2	3.4	3.4
2	1.9	2.4	3.1	3.5	4.1	4.0	4.1	5.3	5.2	3.8	3.2	3.1	3.3	3.4
3	1.9	2.6	3.1	3.4	4.1	4.0	4.1	5.2	4.7	3.8	3.1	3.0	3.2	3.4
4	1.9	2.5	3.1	3.4	4.4	3.8	4.2	5.5	4.7	3.8	3.2	2.9	3.1	3.4
5	1.9	2.4	3.1	3.4	3.9	4.0	4.4	5.6	4.6	3.8	3.2	3.0	3.2	3.4
6	2.0	2.6	3.2	3.1	4.0	4.1	4.5	5.8	4.6	3.8	3.2	3.0	3.2	3.4
7	2.0	2.5	3.0	3.4	4.0	4.3	4.6	6.1	4.4	3.6	3.1	3.0	3.2	3.4
8	2.1	2.5	2.9	3.4	3.9	4.2	4.6	5.8	4.2	3.5	3.2	3.0	3.2	3.4
9	2.1	2.6	3.0	3.3	3.9	4.3	4.5	5.4	4.1	3.5	3.2	3.0	3.3	3.5
10	2.2	2.5	3.0	3.5	4.0	4.0	4.3	5.2	4.3	3.5	3.2	3.1	3.3	3.6
11	2.2	2.6	3.0	3.2	3.8	3.8	4.6	5.0	4.3	3.5	3.3	3.1	3.3	3.7
12	2.3	2.8	3.0	3.4	3.9	4.1	4.8	5.1	4.1	3.6	3.3	3.2	3.3	3.6
13	2.3	2.9	2.9	3.4	4.0	4.1	4.9	5.2	4.5	3.7	3.4	3.3	3.3	3.4
14	2.4	2.9	3.1	3.8	4.0	4.1	5.2	5.3	4.5	3.6	3.4	3.3	3.4	3.4
15	2.4	2.9	3.1	3.6	4.0	4.0	5.0	6.1	4.4	3.4	3.6	3.2	3.5	---
16	2.4	2.9	3.0	3.6	4.1	3.9	5.2	5.7	4.3	3.4	3.9	3.1	3.5	---
17	2.4	2.8	3.4	3.7	3.9	3.8	4.9	5.2	4.3	3.5	3.6	3.1	3.2	---
18	2.4	2.6	3.4	3.7	3.9	3.7	4.5	5.5	4.5	3.5	3.2	3.1	3.3	---
19	2.4	2.7	3.2	4.0	4.1	3.9	5.5	5.4	4.3	3.4	3.2	3.1	11	---
20	2.4	2.7	3.3	4.2	4.1	3.5	5.5	5.3	5.0	3.4	3.1	3.1	5.1	---
21	2.2	2.9	3.4	4.1	3.8	3.6	5.6	5.6	3.9	3.4	3.1	3.1	3.4	---
22	2.3	2.8	3.1	4.2	3.8	3.6	5.6	5.3	4.2	3.4	3.1	3.2	3.4	---
23	2.4	2.9	3.2	4.3	3.8	3.6	5.6	5.5	4.3	4.6	3.1	3.2	3.3	---
24	2.4	2.9	3.4	4.4	3.7	3.5	5.8	5.0	4.4	5.7	3.1	3.2	3.3	---
25	2.4	2.9	3.6	4.3	3.6	3.4	5.7	5.2	3.6	3.7	3.1	3.3	3.3	---
26	2.4	3.1	3.3	4.4	3.7	3.6	5.2	5.4	4.0	3.2	3.1	3.4	3.3	---
27	2.4	3.0	3.4	4.4	3.7	3.8	5.2	5.6	4.0	3.2	3.1	3.4	3.4	---
28	2.4	2.9	3.4	4.0	3.7	3.8	5.2	5.0	4.0	3.1	3.0	3.4	3.4	---
29	2.4	2.8	3.4	4.1	3.7	4.0	5.1	4.6	3.9	3.1	2.9	---	3.3	---
30	2.4	3.0	3.3	4.0	3.7	4.0	5.3	4.8	3.9	3.2	3.0	---	3.4	---
31	2.4	---	3.6	---	3.8	4.0	---	6.4	---	3.3	3.2	---	3.2	---
TOTAL	69.6	82.2	99.1	12.8	121.1	120.4	147.8	167.4	131.0	111.8	99.6	88.1	112.0	---
MEAN	2.25	2.74	3.20	3.76	3.91	3.88	4.93	5.40	4.37	3.61	3.21	3.15	3.61	---
MAX	2.4	3.1	3.6	4.4	4.4	4.3	5.8	6.4	5.8	5.7	3.9	3.4	11	---
MIN	1.9	2.4	2.9	3.1	3.6	3.4	4.1	4.6	3.6	3.1	2.9	2.9	3.1	---
AC-FT	138	163	197	224	240	239	293	332	260	222	198	175	222	---

Table 2.--Continued

## KENNEWICK IRRIGATION DISTRICT SYSTEM

12512150 AMON WASTEWAY NEAR MOUTH NEAR RICHLAND, WA.

LOCATION.--Lat 46°14'26", long 119°15'28", in NW<sub>1</sub>NW<sub>2</sub> sec.25, T.9 N., R.28 E., Benton County, Hydrologic Unit 17030003, beneath Columbia Irrigation District flume, about 1/2 mi above mouth, just east of Leslie Rd.

GAGE.--Water-stage recorder. Elevation of gage is 360 ft, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 7-15, 1986. Records good. Between mid-March and mid-October wastewater is diverted into the wastewater at the K.I.D. Amon pumping station, which also distributes water to three canals. The pumping station is supplied by a diversion from the Yakima River at Prosser, with the K.I.D. system beginning at Chandler.

EXTREMES.--Maximum discharge, 129 ft<sup>3</sup>/s Mar. 24, 1986; minimum, 5.1 ft<sup>3</sup>/s Mar. 4, 1986.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987			
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR		
1	7.5	53	36	28	35	50	63	82	11	9.9	10	9.2	8.4	58		
2	7.3	50	34	24	35	45	65	83	11	9.8	9.8	8.8	8.6	66		
3	7.2	45	39	27	40	43	73	79	11	9.8	9.5	8.7	8.4	60		
4	6.6	41	39	35	50	38	66	77	11	9.8	9.3	8.5	7.3	60		
5	6.5	40	43	31	58	35	56	75	12	10	9.3	8.7	8.1	52		
6	7.1	37	49	27	53	33	57	70	11	9.9	9.2	8.6	8.3	50		
7	7.5	27	52	30	46	32	60	59	11	9.6	9.1	8.6	7.9	49		
8	7.7	22	51	40	43	31	64	54	11	9.6	9.1	8.7	8.1	53		
9	7.8	24	51	45	45	31	67	52	11	9.6	9.1	8.8	8.1	51		
10	7.4	37	51	25	50	30	65	51	11	9.6	9.2	9.0	8.1	53		
11	7.1	45	54	29	51	31	64	52	11	9.6	9.2	8.7	8.0	62		
12	7.0	52	58	31	51	29	67	53	11	9.6	9.3	8.8	8.6	63		
13	7.2	52	69	30	50	31	67	52	11	9.6	9.1	9.2	8.2	59		
14	7.2	48	69	32	52	26	67	52	11	9.6	9.2	8.6	8.5	52		
15	7.1	44	59	37	54	24	66	53	11	9.6	8.8	8.7	9.0	---		
16	7.7	44	44	54	57	25	75	35	11	9.9	8.8	8.5	7.9	---		
17	7.3	43	42	38	61	24	73	15	11	9.7	8.8	8.5	7.9	---		
18	22	44	41	43	53	25	68	13	11	9.8	8.8	8.1	10	---		
19	66	40	41	49	49	25	65	12	11	9.8	8.5	8.5	13	---		
20	69	36	40	46	40	26	68	13	11	9.8	8.7	8.5	8.9	---		
21	72	27	47	48	37	30	66	14	10	9.8	8.5	8.5	8.1	---		
22	98	30	49	46	34	33	70	13	10	9.7	8.6	8.4	8.2	---		
23	117	33	52	44	35	31	70	12	10	9.6	8.8	8.5	8.4	---		
24	123	27	53	40	34	29	79	12	10	9.6	8.8	8.4	39	---		
25	65	32	49	39	33	30	78	12	10	9.3	9.1	8.2	63	---		
26	9.6	38	46	40	34	33	81	12	10	9.6	9.3	8.2	60	---		
27	40	38	46	37	35	40	78	13	10	9.5	9.1	8.2	55	---		
28	65	39	35	35	39	45	78	12	11	9.7	9.1	8.3	56	---		
29	63	39	26	37	40	53	78	13	9.8	9.4	8.9	---	56	---		
30	62	39	24	36	41	61	85	14	9.9	9.3	8.9	---	49	---		
31	59	---	29	---	47	64	---	12	---	9.1	9.4	---	56	---		
TOTAL	1,053.8	1.166	1,418	1,103	1,382	1,083	2,079	1,171	321.7	299.2	281.3	240.4	630.0	---		
MEAN	34.0	38.9	45.7	36.8	44.6	34.9	69.3	37.8	10.7	9.65	9.07	8.59	20.3	---		
MAX	123	53	69	54	61	64	85	83	12	10	10	9.2	63	---		
MIN	6.5	22	24	24	33	24	56	12	9.8	9.1	8.5	8.1	7.3	---		
AC-FT	2,090	2,310	2,810	2,190	2,740	2,150	4,120	2,320	638	593	558	477	1,250	---		

Table 2.--Continued

## SOUTH COLUMBIA BASIN IRRIGATION DISTRICT SYSTEM

12513700 S.C.B.I.D. ESQUATZEL WASTEWAY NEAR MOUTH, NEAR RICHLAND, WA.

LOCATION.--Lat 46°21'30", long 119°14'45", in NW<sub>1/4</sub>NE<sub>1/4</sub> sec.13, T.10 N., R.28 E., Franklin County, Hydrologic Unit 17020016, 0.5 mi above mouth, at Pasco Pump Lateral crossing, 1 mi northeast of north boundary of Richland.

GAGE.--Water-stage recorder. Elevation of gage is 500 ft, from topographic map.

REMARKS.--Estimated daily discharges: Feb. 27 to Mar. 7, Mar. 14-20, Oct. 4-23, 1986. Records good except for estimated daily discharges, which are poor. Most flow is return and waste from water imported for irrigation from the Columbia Basin Project, which is supplied by a diversion from the Columbia River at Grand Coulee Dam. The water is distributed through a complicated network of canals and reservoirs.

EXTREMES.--Maximum discharge, 295 ft<sup>3</sup>/s Sept. 24, 29, 1986; minimum, 36 ft<sup>3</sup>/s Mar. 6, 7, 8, 16, 1987.

## MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987			
DAY	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	
1	---	70	84	114	109	169	182	215	283	224	84	72	74	46	104	
2	---	71	88	121	110	169	183	213	283	222	84	71	69	46	108	
3	---	71	80	109	108	187	187	204	242	214	83	71	67	47	87	
4	---	72	87	122	100	199	179	200	238	191	81	69	65	47	68	
5	---	72	89	133	129	208	173	192	234	143	85	68	65	46	79	
6	---	73	89	122	129	203	177	195	229	138	83	67	63	42	79	
7	---	73	87	144	133	186	185	201	225	134	80	66	63	39	84	
8	---	68	97	156	131	169	188	204	221	121	78	66	62	40	91	
9	---	67	108	162	129	148	182	209	217	115	75	66	59	43	97	
10	---	66	110	163	132	145	177	219	212	111	75	66	65	44	80	
11	---	63	111	177	107	146	187	220	208	113	75	68	65	44	87	
12	---	55	109	169	93	146	169	217	204	109	76	70	66	45	110	
13	---	58	108	140	110	173	174	215	200	113	76	66	68	45	101	
14	---	57	116	124	110	179	175	221	195	113	76	73	67	44	93	
15	---	56	115	136	151	169	160	226	191	107	75	65	64	45	96	
16	---	55	114	141	155	171	156	233	187	108	73	67	62	45	99	
17	---	54	113	149	160	180	162	230	183	108	73	67	62	44	105	
18	---	53	110	152	155	174	188	232	178	107	74	70	62	46	129	
19	---	52	102	160	156	164	177	224	174	103	76	69	61	48	156	
20	68	51	110	147	149	156	173	237	170	102	74	67	62	83	152	
21	65	52	103	162	152	152	168	241	166	100	73	71	62	90	133	
22	69	48	89	188	145	131	164	242	161	100	74	71	62	107	115	
23	73	54	105	181	151	133	167	248	157	97	73	73	56	100	104	
24	68	73	118	160	142	139	178	282	153	91	72	74	44	56	84	
25	86	97	110	144	135	151	177	286	181	90	72	74	48	62	---	
26	69	63	117	130	134	168	166	285	190	89	73	74	49	77	---	
27	69	58	131	120	148	182	150	285	205	89	71	75	47	75	---	
28	70	65	137	108	155	195	155	285	215	89	71	79	48	81	---	
29	---	77	107	100	168	184	174	284	226	86	71	75	---	79	---	
30	---	75	109	96	170	192	196	283	230	84	66	71	---	76	---	
31	---	93	---	113	---	202	215	---	227	---	66	73	---	83	---	
TOTAL	---	2,012	3,153	4,343	4,056	5,270	5,444	7,028	3,385	3,611	2,338	2,174	1,707	3,815	---	
MEAN	---	64.9	105	140	135	170	176	234	206	120	75.4	70.1	61.0	58.5	---	
MAX	---	97	137	188	170	208	215	286	283	224	85	79	74	107	---	
MIN	---	48	80	96	93	131	150	192	153	84	66	65	44	39	---	
AC-FT	---	3,990	6,250	8,610	8,050	10,450	10,800	13,940	12,660	7,160	4,640	4,310	3,390	3,600	---	

Table 2.--Continued

KENNEWICK IRRIGATION DISTRICT SYSTEM  
12514100 ZINTEL CANYON WASTEWAY NEAR MOUTH, AT KENNEWICK, WA.

LOCATION.--Lat 46°12'53", long 119°08'24", in SE<sub>1/4</sub>SE<sub>1/4</sub> sec.35, T.9 N., R.29 E., Benton County, Hydrologic Unit 17020016,

beneath Columbia Irrigation District flume, about 1/4 mi above mouth, about 500 ft south of U.S. 395.

GAGE.--Water-stage recorder. Elevation of gage is 380 ft, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 1-3, Mar. 26 to June 6, Nov. 22-26, 1986. Records good except those for Mar. 26 to June 6, 1986 and Feb. 14 to Apr. 15, which are poor. Between mid-March and mid-October water is diverted into the wastewater from the K.I.D. Lowlift Wasteway, several private returns, and on rare occasion from the K.I.D. Highlift Wasteway. Water is supplied to the K.I.D. by diversion for irrigation from the Yakima River at Prosser, with the K.I.D. system beginning at Chandler. Flow is also affected by diversion for irrigation and filling of pond at the Tri-City Golf Course.

EXTREMES.--Maximum discharge, 12 ft<sup>3</sup>/s July 4, 1986; minimum daily, 0.01 ft<sup>3</sup>/s Mar. 9, 1987.

MEAN DISCHARGE (CUBIC FEET PER SECOND)

	1986												1987			
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR		
1	0.86	2.2	4.6	6.2	5.6	4.1	6.0	5.2	1.8	1.4	3.1	1.3	1.2	0.94		
2	.86	2.2	6.0	5.4	6.1	4.9	6.3	5.1	1.8	1.4	1.7	1.3	1.2	.99		
3	.86	3.2	6.4	6.0	6.5	5.7	5.7	5.2	1.8	1.5	1.5	1.3	1.2	.49		
4	.86	4.4	7.0	5.4	9.1	5.0	5.5	4.8	1.8	1.5	1.5	1.3	1.2	.16		
5	.89	5.6	6.0	5.0	7.1	5.7	5.4	4.5	1.8	1.8	1.5	1.3	.61	.26		
6	.91	4.0	5.0	5.4	5.5	5.4	5.8	5.0	1.7	1.5	1.5	1.3	.21	.15		
7	.91	2.8	4.0	5.2	4.9	5.9	5.2	5.5	1.8	1.5	1.5	1.3	.07	.21		
8	.91	4.6	3.2	4.7	5.2	5.9	5.6	5.5	1.7	1.5	1.5	1.2	.05	.28		
9	.91	2.8	4.2	3.9	5.3	5.7	6.1	5.3	1.8	1.5	1.5	1.2	.01	.64		
10	.88	3.8	5.0	4.5	5.7	5.9	6.3	5.2	1.6	1.5	1.5	1.2	.25	1.2		
11	1.0	4.8	4.6	4.3	5.4	5.5	6.0	5.3	1.7	1.5	1.4	1.2	.61	2.8		
12	.95	5.6	4.0	4.1	5.1	5.7	6.2	5.1	1.7	1.6	1.4	1.2	.89	2.8		
13	.91	5.2	3.4	4.3	4.6	6.4	6.6	5.1	1.7	1.7	1.4	1.4	.63	2.1		
14	.91	4.8	3.0	6.2	4.3	6.2	5.7	4.5	1.7	1.6	1.6	1.3	.72	2.1		
15	.99	4.6	3.8	5.7	4.6	5.6	5.2	4.6	1.6	1.6	1.3	1.3	1.1	4.0		
16	1.2	4.2	4.6	5.4	5.1	6.5	6.1	5.2	1.6	1.6	1.3	1.2	.50	---		
17	1.5	3.8	5.2	5.3	5.3	6.8	6.1	2.5	1.5	1.6	1.4	1.2	.37	---		
18	1.7	3.6	5.8	6.4	4.0	5.8	5.7	2.1	1.7	1.6	1.4	1.2	.31	---		
19	1.7	4.8	6.6	5.2	4.6	6.2	5.5	2.1	1.5	2.0	1.4	1.2	.68	---		
20	1.7	4.4	7.2	4.6	5.0	6.8	6.0	2.1	1.6	1.7	1.4	1.2	.42	---		
21	1.7	4.0	7.6	5.4	5.1	6.7	5.4	2.3	1.5	1.7	1.4	1.1	.41	---		
22	1.8	5.6	5.6	5.4	5.7	5.6	5.1	2.2	1.5	1.7	1.4	1.1	.38	---		
23	1.8	4.8	4.0	4.8	4.7	5.9	6.0	2.3	1.5	1.7	1.4	1.1	.13	---		
24	1.8	4.0	4.6	5.0	4.7	5.8	7.1	2.2	1.6	1.7	1.4	1.3	.32	---		
25	1.7	5.4	5.2	5.1	4.5	5.9	5.8	2.1	1.6	1.7	1.8	.79	.23	---		
26	1.6	4.4	5.8	5.9	5.3	6.1	5.6	2.1	1.6	2.0	2.0	1.2	.34	---		
27	1.6	5.4	4.0	5.5	5.6	5.6	6.0	2.2	1.6	1.6	1.3	1.2	.28	---		
28	1.6	4.0	4.2	5.1	4.6	5.6	5.8	2.0	1.6	1.8	1.3	1.2	.32	---		
29	1.6	2.0	4.4	6.3	5.3	7.1	6.1	2.5	1.5	1.6	1.3	---	.36	---		
30	1.8	3.4	4.6	4.9	5.8	6.8	5.7	2.0	1.5	1.6	1.3	---	.23	---		
31	2.0	---	5.4	---	5.7	5.9	---	1.9	---	1.7	1.9	---	.57	---		
TOTAL	40.41	124.4	155.0	156.6	166.0	182.7	175.6	113.7	49.4	50.4	47.3	34.09	15.80	---		
MEAN	1.30	4.15	5.00	5.22	5.35	5.89	5.85	3.67	1.65	1.63	1.53	1.22	.51	---		
MAX	2.0	5.6	7.6	6.4	9.1	7.1	7.1	5.5	1.8	2.0	3.1	1.4	1.2	---		
MIN	.86	2.0	3.0	3.9	4.0	4.1	5.1	1.9	1.5	1.4	1.3	.79	.01	---		
AC-FT	80	247	307	311	329	362	348	226	98	100	94	68	31	---		

Table 2.--Continued

## COLUMBIA IRRIGATION DISTRICT SYSTEM

14006000 C.I.D. No.3 CANAL AT END, NEAR FINLEY, WA.

LOCATION.--Lat 46°07'42", long 119°00'33", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.36, T.8 N., R.30 E., Benton County, Hydrologic Unit 17070101, 2 mi southeast of Finley.

GAGE.--Water-stage recorder. Elevation of gage is 380 ft, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Between early April and mid-October, discharge increases due to irrigation waste and return flow. The C.I.D. system is supplied by diversion from the Yakima River at Horn Rapids Dam.

EXTREMES.--Maximum discharge, 31 ft<sup>3</sup>/s Apr. 9, 1986, Mar. 31, 1987; minimum daily, 1.6 ft<sup>3</sup>/s Apr. 19, 1986.

	MEAN DISCHARGE (CUBIC FEET PER SECOND)													
	1986						1987							
DAY	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	4.1	3.2	8.0	7.3	7.1	6.8	9.6	12	4.1	3.5	4.8	4.3	4.3	28
2	4.1	2.8	8.8	4.9	6.1	5.7	9.9	11	4.0	3.6	4.9	4.1	4.0	23
3	4.1	3.1	9.7	3.4	8.8	4.9	10	11	4.0	3.7	4.1	4.0	4.1	21
4	4.1	3.4	10	2.8	10	5.2	8.8	9.8	4.0	3.8	4.0	3.9	3.9	17
5	4.1	4.1	9.4	6.6	13	5.2	10	12	4.0	4.3	4.2	3.8	4.2	12
6	4.1	3.9	11	7.1	13	4.2	11	12	4.1	4.1	4.1	3.8	3.8	9.0
7	4.5	3.4	11	5.3	11	4.3	12	11	4.1	3.8	3.8	3.9	3.8	7.0
8	4.7	7.0	9.3	4.9	9.0	2.8	12	9.1	4.1	3.7	3.8	3.9	3.9	11
9	5.1	28	8.3	4.4	6.6	1.7	11	9.6	4.1	3.6	3.8	3.8	3.7	18
10	4.7	26	9.8	5.3	7.4	2.1	9.4	10	4.1	3.9	3.8	3.7	4.0	16
11	4.6	21	12	6.5	7.7	10	9.5	12	4.1	3.7	3.9	3.8	3.8	17
12	4.1	12	12	6.7	6.2	7.8	9.3	14	4.2	4.0	4.0	4.5	3.6	16
13	4.0	7.7	12	7.2	5.2	6.3	9.0	14	4.2	4.0	4.0	4.2	3.7	15
14	4.1	11	9.7	7.2	4.5	5.8	11	14	4.3	4.0	4.2	4.1	4.0	12
15	4.1	11	6.3	9.8	5.1	4.9	12	14	4.1	3.8	3.9	4.1	4.2	11
16	4.1	10	5.7	9.1	4.9	5.6	14	5.7	4.0	4.0	4.7	4.0	3.9	9.2
17	4.3	10	7.6	8.7	6.0	7.0	14	3.8	4.0	4.0	4.7	4.0	3.4	---
18	3.9	6.0	9.3	9.3	5.3	7.1	13	3.7	4.2	3.9	4.7	3.7	3.4	---
19	3.7	1.6	8.9	11	4.6	8.8	15	3.8	4.0	4.1	4.7	3.7	3.4	---
20	3.7	8.7	11	8.3	3.4	8.3	13	3.8	4.0	4.1	4.7	4.5	3.4	---
21	3.7	4.7	15	8.7	2.2	8.2	13	3.8	3.9	4.1	4.7	4.1	3.2	---
22	3.5	3.5	14	7.7	2.5	5.1	14	3.8	3.9	4.1	4.7	4.1	2.8	---
23	4.0	5.3	13	7.8	3.1	5.0	13	3.8	3.7	3.9	4.7	4.0	3.0	---
24	5.3	8.8	13	6.8	3.3	4.2	16	3.7	3.6	3.8	4.7	3.8	2.8	---
25	3.7	11	9.5	5.8	4.8	4.8	17	3.8	3.7	3.8	4.5	3.9	2.7	---
26	3.4	11	7.4	6.1	5.7	7.4	16	3.8	3.7	4.1	4.2	3.9	2.7	---
27	3.4	10	5.4	6.3	7.0	8.2	15	3.8	3.9	3.9	4.6	3.9	2.9	---
28	3.3	10	4.8	6.0	6.7	7.4	16	3.8	4.3	3.8	4.9	3.9	2.9	---
29	3.8	10	3.7	7.3	5.9	8.5	16	3.9	3.7	3.8	4.4	---	2.6	---
30	3.5	9.1	6.7	8.2	6.8	10	16	4.0	3.6	3.8	4.2	---	7.1	---
31	3.2	---	6.3	---	7.3	9.5	---	4.1	---	3.9	4.7	---	29	---
TOTAL	125.0	267.3	288.6	206.5	200.2	192.8	375.5	238.6	119.7	120.6	135.1	111.4	138.2	---
MEAN	4.03	8.91	9.31	6.88	6.46	6.22	12.5	7.70	3.99	3.89	4.36	3.98	4.46	---
MAX	5.3	28	15	11	13	10	17	14	4.3	4.3	4.9	4.5	29	---
MIN	3.2	1.6	3.7	2.8	2.2	1.7	8.8	3.7	3.6	3.5	3.8	3.7	2.6	---
AC-FT	248	530	572	410	397	382	745	473	237	239	268	221	274	---

Table 3.--Discharge measurements at miscellaneous sites

Map number (figs. 3 and 4)	Gaging station	Tributary to	Location	Measurements	
				Date	Discharge (ft <sup>3</sup> /s)
12513400	Esquatzel Coulee near Mesa	S.C.B.I.D. Esquatzel Wasteway	Lat 46°35'16", long 119°00'00" in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.25, T.13 N., R.30 E., Franklin County, 300 ft above county road crossing, 1 mi north of Mesa.	4-15-86 5-14-86 6-16-86 7-17-86 8-20-86 9-18-86 10-20-86 11-17-86 12-17-86 1-15-87 3-16-87 4-22-87	10.9 9.00 20.3 29.8 37.2 35.6 26.3 14.8 12.8 11.5 12.1 10.4
Misc-2	S.C.B.I.D. WB5 Wasteway at drop structure No.5 near Hanford	Columbia River	Lat 46°33'25", long 119°16'27", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.2, T.12 N., R.28 E., Franklin County, 4 mi southeast of Hanford townsite	4- 1-86 4-16-86 7-22-86	9.58 49.8 69.8
Misc-3	S.C.B.I.D. PE16.4 Wasteway near Rickert Road, near Hanford	Columbia River	Lat 46°30'49", long 119°14'22", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.24, T.12 N., R.29 E., Franklin County, 300 ft below county road crossing, 7 mi southeast of Hanford townsite.	3- 7-86 4-16-86 5-20-86 6-24-86 7-24-86 8-22-86 9-22-86 10-23-86 11-25-86 12-18-86 1-20-87 2-12-87 3-18-87 4-24-87	46.6 95.9 164 137 190 179 188 105 50.7 101 40.0 38.6 12.4 109
12473512	Baxter Springs near Richland	Columbia River	Lat 46°26'35", long 119°15'13", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.13, T.11 N., R.28 E., Franklin County, at county road crossing, 50 ft above mouth, 9 mi north of Richland.	4-21-86 5-20-86 6-26-86 7-24-86 8-22-86 9-23-86 10-23-86 11-25-86 12-18-86 1-20-87 2-12-87 3-18-87 4-23-87	1.42 1.27 1.59 1.61 1.30 1.70 1.07 .93 1.10 1.13 1.14 .92 1.02

Table 3.--Discharge measurements at miscellaneous sites--Continued

Map number (figs. 3 and 4)	Gaging station	Tributary to	Location	Measurements	
				Date	Discharge (ft <sup>3</sup> /s)
Misc-5	Rankin Springs near Richland	Columbia River	Lat 46°25'24", long 119°15'24", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.24, T.11 N., R.28 E., Franklin County, at county road crossing, 50 ft above mouth, 8 mi north of Richland.	4-21-86 5-20-86 6-26-86 7-24-86 8-22-86 9-23-86 10-23-86 11-25-86 12-18-86 2-12-87 3-18-87 4-23-87	1.79 .88 .27 .19 1.60 .03 0 0 0 0 0 .83
Misc-6	Yakima River tributary at Kiona (461507119281800)	Yakima River	Lat 46°15'07", long 119°28'18", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.20, T.9 N., R.27 E., Benton County, just north of westbound off-ramp from Interstate 82, 0.4 mi northeast of Kiona.	3- 3-86 4-29-86 6- 4-86 7- 8-86 8-11-86 9- 9-86 10- 7-86 11-14-86 12-15-86 1-14-87 2-11-87 3-13-87 4-14-87	.75 .73 .63 .37 .08 .07 .25 .28 .42 .78 .21 .83 .30
Misc-7	Yakima River tributary at Interstate 182 near Richland (460019120001900)	Yakima River	Lat 46°15'33", long 119°17'28", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.15, T.9 N., R.28 E., Benton County, 100 ft northwest of west-bound lanes of Interstate 182, 1 mi south of Whitman School in Richland.	3- 5-86 5- 1-86 6- 5-86 7-15-86 8-13-86 9-10-86 10-10-86 11-14-86 12-15-86 1-14-87 2-11-87 3-13-87 4-14-87	1.23 .99 1.12 1.05 1.15 1.15 .93 1.20 .99 1.55 1.25 1.10 .90
Misc-8	C.I.D. No. 3 Canal tributary at South Highlands at Kennewick	C.I.D. No. 3 Canal	Lat 46°11'01", long 119°07'06", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.13, T.8 N., R.29 E., Benton County, at Cascade St. crossing in Kennewick.	3- 5-86 5- 2-86 6-11-86 7-15-86 8-14-86	0.74 1.04 1.17 1.49 1.71

(continued)

Table 3.--Discharge measurements at miscellaneous sites--Continued

Map number (figs. 3 and 4)	Gaging station	Tributary to	Location	Measurements	
				Date	Discharge (ft <sup>3</sup> /s)
Misc-8 (continued)				9-16-86	2.47
				10-14-86	2.40
				11-14-86	1.15
				12-15-86	1.10
				1-14-87	1.06
				2-11-87	1.09
				3-13-87	.89
				4-15-87	1.94
Misc-9	C.I.D. No. 3 Canal tributary below private lake near Kennewick (461023119061500)	C.I.D. No. 3 Canal	Lat 46°10'23", long 119°06'15", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.18, T.8 N., R.30 E., Benton County, at Kingwood St. crossing, 1.3 mi southeast of Washington School in Kennewick.	3- 5-86 5- 2-86 6-11-86 7-15-86 8-14-86 9-16-86 10-14-86 11-14-86 12-15-86 1-14-87 2-11-87 3-13-87 4-15-87	1.32 1.02 .37 .52 .30 1.63 1.50 2.14 1.71 1.61 1.04 1.97 
12471710	S.C.B.I.D. Wahluke Branch Canal below siphon at head, near Othello		Lat 46°42'21", long 119°08'36" in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.14, T.14 N., R.29 E., Franklin County. Hydrologic unit 17020016, 200 ft below inflow to Radar Hill pump station, about 9 mi south of Othello.	8-05-86 8-12-86 9-25-86 7-22-87 8-28-87	1,080 1,090 337 1,080 1,010
12473760	S.C.B.I.D. Potholes East Canal below Scooteney Reservoir near Mesa		Lat 46°40'08", long 119°01'54", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.27, T.14 N., R.30 E., Franklin County. Hydrologic unit 17020016, at Scooteney Dam, 6.5 mi north of Mesa.	5-14-86 7-29-86 10-03-86 12-02-86 7-23-87 8-26-87	1,040 1,440 532 66.3 1,400 1,310
12509600	Kennewick Irriga- tion District Canal near Chandler		Lat 46°15'37", long 119°34'40" in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.16, T.9 N., R.26 E., Benton County. Hydrologic unit 17030003, 0.7 mi down- stream from U.S.B.R. Chandler power and pumping plant, 5 mi west of Benton City.	5-07-86 7-30-86	238 288
12511000	Columbia Irrigation District Canal at Horn Rapids Dam, near West Richland.		Lat 46°22'42", long 119°25'02", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.3, T.10 N., R.27 E., Benton County. Hydrologic unit 17030003, on right bank, downstream side of intake structure, 5 mi northwest of West Richland.	5-07-86 6-04-86 7-03-86 7-31-86 8-05-86 9-15-86 10-07-86	163 193 183 166 168 157 125

Table 4.--Water-quality data from surface-water sites

Name of gaging station	Station number and map number (figs. 3 and 4)	Latitude	Longitude	Date of sample (1986)	Time of sample	Dissolved nitrate plus nitrite, as N (milligrams per liter)	Specific conductance (microsiemens per centimeter at 25 °C)
S.C.B.I.D. EL85xx Wasteway near Mesa, WA	12435810	46°35'41"	118°59'27"	9/7	18:30	0.2	205
S.C.B.I.D. EL85JJ Lateral at head near Mesa, WA	12435840	46°38'04"	118°59'21"	9/7	17:55	.1	141
S.C.B.I.D. Wahluke Branch canal below siphon, near Othello, WA	12471710	46°42'21"	119°08'36"	9/7	16:30	.7	356
S.C.B.I.D. WB5 Wasteway at drop structure No. 14, near Hanford, WA	12473502	46°32'23"	119°16'30"	9/8	18:00	4.4	600
Ringold Springs above State salmon hatchery, near Ringold, WA	Misc-1	46°30'48"	119°15'19"	9/12	10:15	8.4	1,040
S.C.B.I.D. PE16.4 Wasteway below Eagle Lake, near Othello, WA	12473506	46°40'24"	119°08'56"	9/7	15:30	1.9	620
S.C.B.I.D. PE16.4 Wasteway near mouth, near Hanford, WA	12473508	46°30'22"	119°15'22"	9/12	9:00	2.4	550
Baxter Canyon Springs near Richland, WA	12473512	46°26'35"	119°15'13"	9/12	10:40	2.5	735
S.C.B.I.D. PE27L Lateral near Mesa, WA	Misc-10	46°39'51"	119°03'49"	9/7	17:30	.9	341
S.C.B.I.D. Potholes East Canal below Scootney Reservoir, near Mesa, WA	12473760	46°40'05"	119°01'51"	9/7	14:56	1.0	360
S.C.B.I.D. Eltopia Branch Canal above falls, near Pasco, WA	12473820	46°20'27"	118°58'16"	9/8	13:30	.9	361
S.C.B.I.D. Pasco Wasteway near Richland, WA	12473900	46°22'40"	119°15'18"	9/12	11:00	1.3	394
K.I.D. Main Canal near Chandler, WA	12509600	46°15'37"	119°34'41"	9/7	13:15	1.4	288
Amon Wasteway below K.I.D. Amon pumping station near Kennewick, WA	12509640	46°11'31"	119°14'12"	9/7	16:20	3.7	291

Table 4.--Water-quality data from surface-water sites--Continued

Name of gaging station	Station number and map number (figs. 3 and 4)	Latitude	Longitude	Date of sample (1986)	Time of sample	Dissolved nitrate plus nitrite, as N (milligrams per liter)	Specific conductance- (microsiemens per centimeter at 25 °C)
K.I.D. Highlift Canal dump to Corps drain, near Kennewick, WA	12509666	46°09'46"	119°06'06"	9/7	18:50	1.2	288
K.I.D. Division Four Canal wasteway near mouth, near Finley, WA	12509678	46°06'09"	118°58'44"	9/7	20:05	1.2	289
Yakima River tributary at Kiona, WA	Misc-6	46°15'07"	119°28'18"	9/7	12:10	.5	765
C.I.D. Main Canal at Horn Rapids Dam, near West Richland, WA	12511000	46°22'42"	119°25'02"	9/8	8:45	1.3	298
C.I.D. Canal Wasteway at Columbia Park, at Kennewick, WA	12511016	46°13'54"	119°12'02"	9/8	10:55	1.2	295
C.I.D. No. 2 Canal Wasteway, near Finley, WA	12511034	46°10'55"	119°01'47"	9/8	12:47	1.0	393
C.I.D. No. 2 Canal at end, near Finley, WA	12511038	46°09'53"	119°00'55"	9/8	13:40	1.0	299
Amon Wasteway near mouth, near Richland, WA	12512150	46°14'26"	199°15'28"	9/7	16:56	1.6	360
Esquatzel Coulee at Connell, WA	12513000	46°39'31"	118°52'03"	9/7	19:50	1.7	230
Esquatzel Coulee at Mesa, WA	12513400	46°35'18"	119°00'00"	9/7	19:00	1.0	290
S.C.B.I.D. Esquatzel Wasteway near mouth, near Richland, WA	12513700	46°21'30"	119°14'45"	9/12	11:45	3.4	541
Zintel Canyon Wasteway near mouth, near Kennewick, WA	12514100	46°12'53"	119°08'24"	9/7	18:00	2.3	460
C.I.D. No. 3 Canal at end, near Finley, WA	14006000	46°07'42"	119°00'33"	9/8	16:03	1.7	378